AMERICAN ARISAN

VARM AIR HEATING . SHEET METAL ONTRACTING . AIR CONDITIONING

The

1934

DIRECTORY NUMBER

of the

WARM AIR HEATING, SHEET METAL CONTRACTING and AIR CONDITIONING INDUSTRY

. . . .

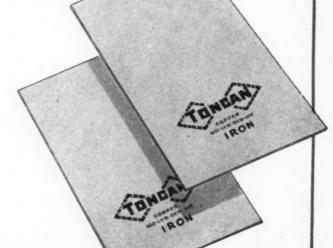
ABLISHED

ANUARY

THIS MODERN HOMEL

MADE PERMANENT AND ATTRACTIVE WITH





REPUBLIC STEEL
CORPORATION
GENERAL OFFICES: YOUNGSTOWN, OHIO

TO RES

SHEET metal workers anxious to find new business will be interested in the new home of Miss Katherine Kelly, Scarsdale, N.Y., designed by Architect Dean Parmelee of White Plains.

It is a modernistic home—modern in appearance, and modern in the amount and application of sheet metal. Toncan Iron was used for the roof drainage, coping, and the walls above the brick work. The air-conditioning system and even the flower pots are of Toncan Iron. But the most interesting application is the use of sheet metal for the side walls.

Toncan Iron was specified and used because of its well-known ability to weather the years—to last longer and to reduce maintenance. No one doubts

this ability, because during twenty-five years this modern alloy of refined iron, copper and molybdenum has proved itself in actual service to stand first among the ferrous metals in resistance to rust, after the stainless irons and steels.

The applications of Toncan Iron are numberless. If you want suggestions for new business, write for a copy of "The Path to Permanence."

MONCRIEF FURNACES and Air Conditioning Systems

A Complete Line embodying latest design quality materials and careful workmanship

SERIES "C" CAST FURNACES



Includes all latest improvements; efficient, economical and reasonably priced. Sections are extra heavy one-piece castings, full size, heavy and smoothly finished. Radiator is one-piece, extra heavy with clean-out and smoke collars cast solid with it. Extra large opening to feed section. Feed section extra heavy and roomy with large opening to radiator and extra large feed door opening; hot-blast feed door. Fire pot is cast in two pieces to provide for expansion and contraction; perpendicular sides prevent ashes from banking. Exterior is ribbed to provide greater radiating surface.

Ash pit, one-piece casting, extra large and roomy.

Duplex roller-bearing grates with long upright shaker handle. Also supplied with triangular bar grates. Doors are large and fitted with adjustable hinges. Edges and faces of door openings are ground smooth, insuring tight fit.

Cast slip-on front in two pieces fits tight against feed and ash door sections without a single bolt. Extra large humidifier is conveniently located in front. Only four joints inside the casing, all "double sealed." All contact edges are ground and fitted so sections go together easily and securely. Every furnace is assembled and shipped as a unit. Fire pot sizes: 18, 20, 22, 24, 26, 28 and 33 inches: with casing sizes respectively 36, 40, 44, 48, 52, 56 and 60 inches.

SERIES "S" STEEL FURNACES

Extra heavy and well made. Particularly adapted for oil burning but equally efficient for coal.

Shells, sizes 20, 22 and 24 inches are of \(^{1}\text{si}_{16}\)-inch O. H. steel; sizes 27, 30 and 34 inches are of \(^{1}\text{si-inch}\) O. H. steel; tops of drums are welded as well as riveted with \(^{1}\text{si-inch}\) cone-head rivets. No bolts through shells.

Radiators are extra large and heavy, solid welded.

A patented feature—Shell is joined to cast front without enclosing joint in air chamber, thus preventing leakage into air chamber.

Connection between shell and radiator is extra large and lined with cast iron collar.

Fire pot is extra deep and large, lined with 1¾-inch high-quality fire brick; special sizes made for each size furnace to insure proper it.

Hot blast feed door, extra large; adjustable hinge keeps door always snug against front opening.

Humidifier, of extra capacity, is set in top of front. All doors are tight fitting, with edges ground tight and smooth. Series "S" furnaces are made in six drum sizes as follows: 20, 22, 24, 27, 30 and 34 inches. Casing diameters respectively 44, 47, 50, 54, 58 and 62 inches.



"CBF" AIR CONDITIONING GAS FURNACES

A superior gas heated air conditioning unit presenting every feature that contributes in any way to efficiency, economy, convenience and dependable care-free operation. Burns either natural or artificial gas. Approved by American Gas Association.

Great efficiency of heating units produces extraordinary economy. More, as well as smaller and narrower drums, present a larger ratio of radiating surface per quantity of gas consumed, with correspondingly increased efficiency.

The fire travel is extended along horizontally divided chambers inside the drums, being ten feet from burner to exhaust manifold. The division, being horizontal instead of vertical, tends to retard the travel of the products of combustion and thus gives increased op-



portunity for the heat units to be better transferred to the drums for radiation.
Blower of required size for each unit is specially built in; slow speed, quiet running, easily accessible. Dustop filters of fine glass wool, adhesive coated, highly efficient. Very accessible.

Ample humidity is provided by humidifier of open pan type. Water is supplied by connection with line, controlled by automatic device. Combines great efficiency and reliability. Does not easily get out of order. Automatic devices of standard types provide for adequate regulation. These include thermostat, limit control and blower switch, and electric pilots.

Type "C B F" comes in units of from 60,000 to 600,000 B.t.u. input.



"Aristocrat" AIR CONDITIONER

for Coal or Oil

for Coal or Utl
Series "C" cast furnace used
as heating unit in rectangular,
baffled casing. An air conditioner of the highest type, moderately priced. Provides all
the benefits of air conditioning.
Unit includes electric driven
blower, Dustop filters, open
pan type humidifier of large
capacity and high efficiency.
Automatic devices afford reliable, care-free operation.

MONCRIEF PIPE AND FITTINGS

Made in our own large modern sheet metal shop. All of the best materials, well finished, true to size. Send for our Pipe. and Fittings Book.

> We supply everything used on a warm air heating job.

GENUINE MONCRIEF PARTS



Insure greatest satisfaction to the owner and easier, quicker installation by the furnace man. Order from the Manufacturers' Catalog. Look for the Moncrief label.

Send for complete descriptive literature

The Henry Furnace & Foundry Co.

3471 E. 49th St.,

Cleveland, O.

Branches at Philadelphia, Pittsburgh, Ashtabula, O.; Omaha Distributors and Warehouses in the Principal Cities



MILES Junior Air Conditioner

Particularly designed for furprovides positive delivery of filtered air. The addition of an automatic humidifier gives the home owner a complete air conditioner at very low cost. Two sizes: No. 22 for furnaces up to and including 22-inch fire pot: No. 26 for furnaces with 24 and 26-inch fire pots.

Covering All Activities in

Gravity Warm Air Heating
Forced Warm Air Heating
Sheet Metal Contracting
Air Conditioning
Ventilating
Roofing

AMERICAN ARTISAN

With which is merged

FURNACES
SHEET METALS

AND

Warm-Air Heating

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More than 7,000 copies of this issue are being distributed.

When you buy paint ...

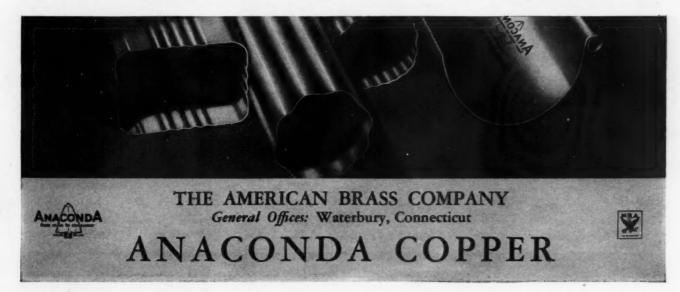
do you select an unknown brand, a product
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PAINT? Certainly not
... nor would many
other paint buyers



Whether paint or copper... KNOWN PRODUCTS are preferred

GENERALLY speaking, the product marked with a well and favorably known name is easier to sell. That is an established fact...has always been so and is today. Anaconda Copper is easier to sell. That, too, is an established fact...because it is backed by the industry's best known name, and because the public has learned that sheet metal work of lasting

copper is the most economical over a period of time. Why not take advantage of trade-marked Anaconda Copper, to make your selling easier and to build a reputation for quality? Sheet metal supply houses throughout the country carry this accepted brand in sheets and rolls, and Copper gutters, leaders, elbows and shoes trade-marked ANACONDA.







A 19th Century Fox Furnace with a one-piece, horseshoe radiator.

JUST 50 years ago, just before the "Gay Nineties," The Fox Furnace Company started in the business of making furnaces at Cleveland, Ohio. From a modest beginning and in keeping with the spirit and activity of the age of horses and buggies, bicycles built for two, coal oil lamps, and horse hair sofas, developed the progressive institution which has provided the heating equipment for hundreds of thousands of homes.

From the day it first opened its business doors on a stove heated world, The Fox Furnace Company produced unusually fine heating plants. One of the first Fox Catalogs, issued about 1896 lists among others, an all cast iron furnace with a one-piece, horseshoe radiator...a Smoke Consumer for soft coal...two-piece fire pots.

The year 1900 marks an important milestone in the history of this institution. Manufacturing activities were moved



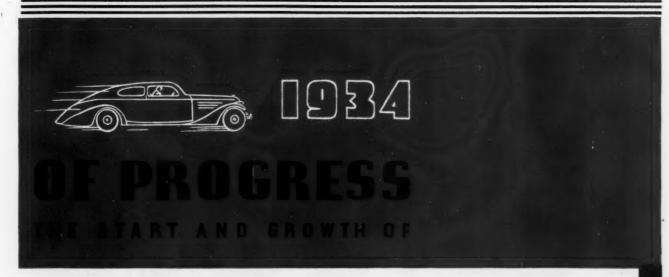
Another Fox Furnace of the vintage of 1896.

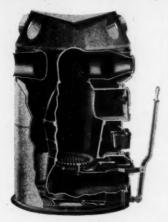


Sunbeam Steel Furnace.

from Cleveland to the modern, new foundry and factory erected on the outskirts of the thriving small city of Elyria, Ohio, twenty-five miles west of Cleveland. With approximately 37,000 feet of floor space, on a railroad siding, a new cupola, a new steam engine to provide the motive power for increased activities, the advent of the Twentieth Century found The Fox Furnace Company keeping pace with the period, occupying the front rank in the advancing columns.

The progressiveness that characterized the growth of The Fox Furnace Company





Sunbeam Cast Furnace, Made also in the pipeless type.

is reflected in the present manufacturing facilities. The original Elyria factory has expanded into a gigantic 25acre plant, which for the past fifteen years has used machine moulding equipment to assure furnace parts of uniform strength and durability.

Another sign of progressiveness is the present widespread distribution of these furnaces which are being sold and installed in every state in the union. Today, more warm air heating contractors handle this line, than any other. Jobbers in all important trading centers carry stocks of these furnaces.



Series No. 60 Sunbeam Air Conditioning Unit. Recommended for oil burning.

However, it is in the products of its manufacture, that the progressiveness of this 50-year-old institution is most strikingly apparent. The Sunbeam line now includes furnaces and air conditioning units for every residential requirement. These are the ...

Sunbeam Cast Iron Furnaces, in seven sizes, and in Pipe and Pipeless types... with every improvement and feature that can be desired.

Sunbeam Steel Furnaces in six sizes . . . with numerous innovations found in no other heating plant.

Sunbeam Gas Fired Furnaces, designed to burn gas exclusively and economically.

Sunbeam Air Conditioning Unit, Series No. 10, the lowest priced complete Air Conditioner on the market.



Sunbeam Gas Fired Furnace.

growing organizations will succeed by following the policies which have guided the destinies of this outstanding maker of heating equipment. The complete Fox Furnace story should be obtained and carefully studied by such contractors and it will be gladly sent on request. Address

THE FOX FURNACE CO.

A DIVISION OF AMERICAN RADIATOR AND STANDARD SANITARY CORP.

ELYRIA, OHIO



It is only reasonable to expect that progressive heating contractors and The Fox Furnace Company have much in common...that dealers who are striving to establish and maintain permanent,



Sunbeam Gas Fired Air Conditioning Unit.



AND LIGHT PL



FOR THE MOST EXACTING SHEET METAL WORK

Indicate your particular field-industrial, chemical, refining, manufacturing, food handling, architectural, domestic-and your specific use, and our staff of technicians who are specializing on these STAINLESS Steel alloys will recommend a grade appropriate in cost and adapted to your requirements.

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Inquiries regarding any application of sheets or light plates, or any product fabricated from either, will be given careful attention. Send for literature. Chromium-Nickel Steels Austenitic

USS 12 **USS 27**

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USS 18-8 USS 25-12

AMERICAN SHEET and TIN PLATE COMPANY

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COMPARE THESE COSTS

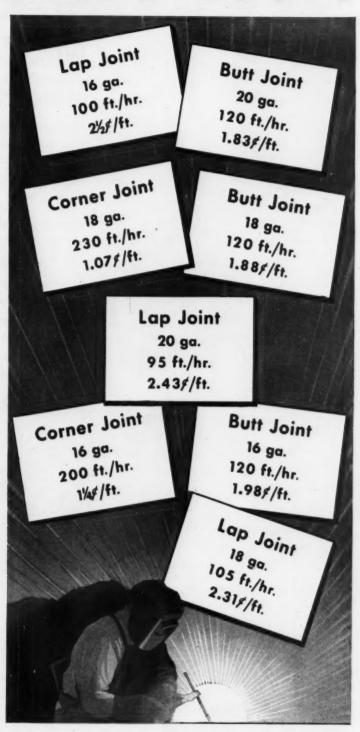
with yours, for fabricating sheet steel products

Shielded Arc Cuts Cost
... makes strong, ductile, leakproof, corrosion-resistant joints

IT'S easy to make strong, tight joints by welding with the shielded arc. There's no troublesome warpage because the shielded arc confines its heat to point of welding. Likewise, there is a minimum disturbance of galvanizing, which makes little difference because shielded arc welds resist corrosion better than the metal of the sheet. The greater speed of shielded arc welding makes possible those typically low welding costs shown at right. The proper equipment for shielded arc welding of sheet metal consists of a Lincoln "Shield-Arc" welder, shown below, and Lincoln "Lightweld" electrodes.



 Many sheet metal fabricators are now using shielded are welding. Their experience is yours for the asking. Write today to



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Largest Manufacturers of Arc Welding Equipment in the World

W-6

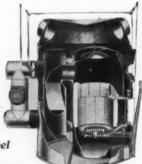
MUELLER



Full Front Furnace

Cast iron. Six sizes each of single and double door styles.

18" to 30" pots.



Mueller Steel Furnace

Riveted and welded.
Made in seven sizes
from 20" to 34"
drums.

Mueller Air Moistener

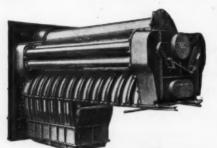
Automatic. Fits in hood of any size or make furnace. Cast

iron pan, vitreous enameled inside. Copper float chamber.

MUELLER-MILWAUKEE offers to the heating trade the most complete line of furnaces, boilers, air conditioning equipment, registers and fittings, on the market.

Since 1857, Mueller has enjoyed a nation-wide reputation for highest quality merchandise and engineering cooperation. These factors have helped build up a strong dealer and jobber organization, extending into every State in the Union.

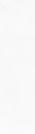
The illustrations convey some idea of the diversity of the Mueller line and show our ability to fill any heating need. Included are cast iron and steel furnaces for any fuel—coal, oil, gas or wood; air conditioning equipment—either individual fans, washers and filters, or combination units; boilers for coal, oil or gas; tank heaters and garbage burners; registers and grilles for gravity or forced circulation; furnace pipe and fittings; and a complete line of accessories.



Heating dealers! Now is the time to investigate the Mueller line. Learn about the features and sizes which have been added to the Full Front Furnace, making it the leader in the field, and competitively priced.

Horizontal Tubular Furnace

Any fuel may be used. Made in three sizes with ratings from 1,188,000 to 1,390,000 B.T.U. per hour.



Double Radiator Furnace

Cast iron. Seven sizes.
Square, prismatic finish fan
casing shown. All Mueller
furnaces can be furnished
with square casings for fan
or gravity in prismatic or
plain galvanized iron.



Horizontal Tubular Furnace
Any fuel may be used. Made in two
sizes with fan ratings of 705,000 and
954,000 B.T.U.

MUELLER

MILWAUKEE

Some Good Jobbing Territories Still Open

The Mueller line offers exceptional opportunities to heating jobbers. Purchasing from a single source assures uniform high quality, simplifies handling and stocking. Mueller Climator air conditioning equipment, designed by engineers with an understanding of the subject in all its phases, today enjoys a position of leadership in the field. Mueller also leads the way in gas-fired equipment with cast iron and steel units for use with manufactured, natural or mixed gas. These are some of the factors which have made Mueller the choice of jobbers who wish to offer a complete, high quality line to their trade.

Already many jobbers in various parts of the country are enjoying the advantages of handling the complete Mueller line. Some choice territories are still open. If you are considering what line to handle during 1934 we suggest that you lose no time in getting complete information and prices on the Mueller line.

We solicit inquiries from aggressive dealers and jobbers who are planning now for the improved heating and air conditioning market of 1934. Take advantage of present low prices. Write today for our complete proposition.



Branches: St. Louis, Minneapolis, Chicago, Omaha, Memphis, Salt Lake City, Baltimore, Portland, Los Angeles.



Climator II Air Conditioning System
Includes Mueller furnace (for any fuel), fan,
washer, filters and cooling coils. Cooling equipment may be omitted, if desired.



Climator III Unit

Combination fan, washer and filter. May be connected to any new or existing installation.



Air Conditioning Register

Specially designed for forced air installations. Neat, simple and efficient. Also complete line of floor and baseboard registers and grilles.



Gas Era Furnaces

Made in two styles, cast iron and steel. Multiple unit design. All A.G.A. approved. De Luxe casing shown.



Made in two styles, two sizes of each. Also combination wood and coal furnace.





EVERY SHEET METAL WORKER CAN OWN A FINE METAL PUNCH

Never before has such a fine and complete metal punch outfit been obtainable for so little money. The Improved Hyro No. O.X. Punch alone is worth every cent of the \$5.90 price of the complete outfit. Yet, in addition, you get 7 punches and 7 dies of best quality (one each 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 17/64") in a handsome, sturdy steel tool case.

It is a pleasure to work with the Improved Hyro No. O. X. Punch. We honestly believe it is the finest tool

of its kind on the market. Even better than the former model, which has long been famous among sheet metal workers. If you know punches you'll appreciate these superior features: Most powerful punch of its size. Measures only 8" overall and weighs but 25/8 pounds, yet will easily punch holes up to 1/4" diameter in 14 gauge steel or equivalent. * Front pointer and side gauge combination make it possible to punch a number of holes at a uniform distance from the edge of the sheet without center-punching. * The punch quide has a tool steel

bushing which permits smooth, easy travel of punch holder in guide. * Side links, made of hardened steel, join the frame and handle, holding them in alignment. * Handle and frame are high carbon steel forgings. * Forged-steel swinging stop, controlled by spring locked in the frame, prevents handle from going back too far when raised for punching.

Most jobbers are now prepared to supply the improved Hyro No. O. X. Punch outfit at \$5.90.* Order now, or send the coupon below and we will refer it to the jobber nearest you.

HYRO No. O. X. PUNCH PROVED

WITH A FULL SET OF 7 PUNCHES AND DIES IN A STEEL CASE



Name.

Address

PRODUCT OF PARKER-KALON CORPORATION

THE AMERICAN ROLLING MILL COMPANY

Makers of ARMCO Stainless Steels, Ingot Iron, Steel and Copper Bearing Steel Sheets and Plates

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Distributors in Principal Cities Can Supply Contractors' Requirements Promptly

ARMCO PRODUCTS

ARMCO STAINLESS STEEL ALLOYS: ARMCO 18-8 (iron-chromium-nickel), and ARMCO 17 (iron-chromium), supplied in sheets, strip, plates, in all

standard sizes and gages.
Ingot Iron and Steel Sheets: Galvanized (flat and corrugated), Hot-Rolled and Annealed, and Furniture

grades.
Ingot Iron and Steel Plates: Annealed.
Roofing (Galvanized Ingot Iron Steel and Copper-Bearing Steel): Roll, V-Crimp, Standing Seam, Pressed Standing Seam, Corrugated; Spanish Metal Tile—made and sold by the Milcor Steel Co., Milwaukee, Wis.; and Glas-Iron Tile (Porcelain Enameled on Ingot Iron), made and sold by Wolverine Porcelain Enameling Co., Detroit, Mich.
Manufactured Building Products Made of Armco Sheets: Gutters, Downspouts, and other Roof and Roof-Drainage Fittings, are carried in stock by Armco Distributors throughout the country.

BROADEN BUSINESS WITH ARMCO STAINLESS

ARMCO STAINLESS STEEL ALLOYS are made to highest metallurgical standards in two popular grades—ARMCO 18-8 and ARMCO 17. Both alloys rank high in corrosion resistance, workability, uniformity, and perfection of surface finish. They offer the sheet metal contractor an excellent opportunity to broaden and diversify his business, since one or the other of these two improved metals can be set for the since one or the other of these two improved metals can be used for any purpose where handsome appearance and permanence are required. There are six different surface finishes, ranging from "white-pickled" to "sodafountain" bright. All are available in the forms of sheets, strip, and plates. Write to us for complete information.

INGOT IRON RESISTS RUST

Ingot Iron was the first low-cost iron made especially to resist the general wasting action of rust. Galvanized Ingot Iron Sheets have the additional protection of a heavy coating of high grade zinc, insuring the utmost durability to provide in galvanized sheet metal.

FORMS EASILY BECAUSE DUCTILE

Again, the careful refinement of Ingot Iron makes it uniformly soft and workable, free from irregular hard spots that interfere with accurate forming to intricate designs. Sheet metal workers have long praised the consistently easy-forming qualities of Ingot Iron, and have found it an important factor in reducing waste and speeding shop work.

SOLDERS QUICKLY AND FIRMLY

Solder applied to Galvanized Ingot Iron takes a firm anchorage. Little preparation is required. If the metal is dry and clean and a suitable flux is used, the solder will form a strong bond with the parts to be joined.

WELDS READILY AND SOUNDLY

Another advantage of the uniform refinement of Ingot Iron is its excellent welding properties. It melts evenly under weld-ing temperatures and makes a sound, flawless weld that is as strong and rust-resistant as the surrounding area.

SAVES MONEY FOR YOUR CUSTOMERS

On a cost-per-year basis, Ingot Iron has proved its ability to save money for builders and home-owners. This evidence is

found in the records of twenty-seven years of satisfactory service—the longest record of actual service of any low-cost, rust-resisting sheets or plates.

HOW TO IDENTIFY INGOT IRON

The Armco triangle together with the words, "IN-GOT IRON," appears on every sheet of ARMCO INGOT IRON, both galvanized and hot-rolled uncoated grades. In each instance the gage is shown at the right of the triangle, which is placed three times diagonally on every sheet. Be sure to see the Armco trademark before you put delivered sheets into stock, and especially before you install work. It means protection of your interests and authorized ARMCO Distributors as well as those of your customers.

STANDARD GAGES AND SIZES

Ingot Iron galvanized sheets, as well as plain steel and copper-bearing steel sheets, are carried in stock by distributors and jobbers in the following sizes:

Gages—16, 18, 20, 22, 24, 26 and 28. Widths—24, 26, 28, 30, and 36 ins.

Lengths-96 and 120 ins.

Ingot Iron corrugated, galvanized and black sheets for roofing and siding purposes are made with 5, 3, 2½ and 1¼ in. corrugations. For general building purposes we recommend and carry in stock a 2½-in. corrugated sheet 26 ins. wide (after corrugating) for siding, and 27½ ins. wide (after corrugating) for roofing. This size covers 24 ins. in the width and allows for a one-corrugation lap for siding and a one-and-one-half corrugation lap for roofing. These sheets may be obtained from stock in the following sizes: Gages—20, 22, 24, 26, 28. Widths—26 and 27½ ins. Lengths—60, 72, 84, 96, 108, 120, 144 ins.

All of the above sizes are termed standard sizes because they are carried in stock and used most frequently. All grades of sheets may be obtained in special sizes when an order is placed for 2000 lbs. or more of a size.

WHERE TO GET ARMCO SHEETS AND FORMED PRODUCTS

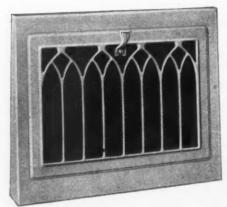
Leading distributors and jobbers in all parts of the United States and Canada supply Armco galvanized sheets and galvanized formed products, and in some instances, annealed and hot-rolled sheets and plates. Names and addresses of Armco distributors and jobbers in any given territory will be supplied on request. Write to the nearest office listed above.

MONEY-MAKING SALES-HELPS FOR CONTRACTORS

Every sheet metal contractor may have a free subscription to Ingot Iron Shop News, a monthly business-building paper that deals with all departments of his business—management, selling, mechanics, accounting, and many other important subjects. Additional business-helps are provided, such as job cards, window posters, blotters, advertisements, direct mail campaigns, folders and booklets. Ingot Iron Shop Headquarters has a wealth of information and material that, wisely and consistently used, can be turned into profitchle business. be turned into profitable business.

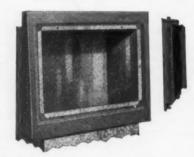
All these aids to better business are provided by the Armco Distributors Association of America. For further information either write to The Armco Distributors Association, 730 Curtis Street, Middletown, Ohio, or get in touch with an Armco Distributor. There is one near you.

Our New No. 120 Baseboard Series Rounds Out a Most Complete and Advantageous Line



No. 120 Baseboard Register Equipped with the same highly efficient friction hinge used on H & C Forced Air Registers, insuring a smooth operating, tightly closing valve.

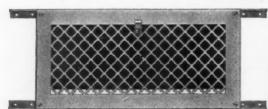
To those who prefer to lap the stackhead over the frame, we offer the No. 120 Series as a companion line to the very popular H & C No. 110 Series.



With this addition there is no conceivable type of job for which the H & C line does not offer the ideal register—the last word in quality construction and design, providing the method of installation that you prefer.

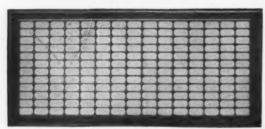
Your choice of registers is worthy of serious consideration. It pays to handle the best. Make sure of always getting it by standardizing exclusively on H & C.

Note: The most popular items formerly made by Tuttle & Bailey Mfg. Co. are now included in the H & C line.



No. 3331 3-Piece Forced Air Sidewall Register

One of a complete line of one and three-piece baseboard and sidewall forced air registers, all available in choice of three grille designs. Return air intakes to match.



No. 255 Cold Air Face

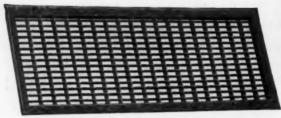
The patented pinchedback fretwork of this cold air face provides it with greater air capacity than any other pressed steel cold air face of equal size. Strongly braced. Very popular in medium dark oak.

No. 265 Cold Air

Face
Employs a decidedly improved grid type construction. Narrow mesh, invisible corner seams, flush intersections. Provides exceptionally large air capacity. Furnished in standard sizes and finishes. Most popular in medium dark oak.



No. 200 Floor Register
Made of unbreakable steel. Patented pinched-back fretwork affords large free area and unusual
strength. Furnished in medium
dark oak and all other standard
finishes.





HART & COOLEY MFG. CO.

New York, 101 Park Ave. Philadelphia, 1600 Arch St.



REGISTERS

GENERAL SALES OFFICE 61 W. KINZIE STREET, CHICAGO

Boston, 6 Beacon St. New Britain, Conn., Corbin Ave.



If you are looking for a line of modern warm air furnaces which meets today's demand for an Economical and Efficient heating unit, you should be interested in Niagara's attractive proposition.

Niagara furnaces are manufactured by an organization that has been in business for 43 years . . . an organization that maintains a high standard of quality. The Niagara line is complete. It embodies the application of sound engineering principles and modern manufac-

turing facilities. Part for part, it is a superior line. Only the finest materials are used; castings are smooth; construction is correct throughout and installations are remarkably simple.

Niagara furnaces have never been merchandised to low priced competition, but have always been sold by reputable dealers. Build a profitable volume of furnace business. Investigate this outstanding line, made by an organization which stands ready to offer a full measure of cooperation and service. DEPENDABILITY

COOPERATION

CAPACITY

SERVICE

PLANTAGE

OF

THE

MEYSTONE ADVANTAGE

OF

THE

Write today for complete information on the 10 big features that make this the profitable line for you to handle.



THE FOREST CITY FOUNDRIES CO. 2500 West 27th Street Cleveland, Ohio



C. G. HUSSEY & CO.

Copper and Brass Rolling Mills

EXECUTIVE OFFICES AND MILLS: PITTSBURGH, PENNSYLVANIA District Sales Offices: BALTIMORE, BUFFALO, CHICAGO, CINCINNATI, CLEVELAND, NEW YORK, PHILADELPHIA, PITTSBURGH, ST. LOUIS, Warehouses: CHICAGO, CINCINNATI, CLEVELAND, NEW YORK, PHILADELPHIA, PITTSBURGH, ST. LOUIS



THE HUSSEY ORGANIZATION

From its inception, back in 1848, progressive sheet metal contractors have looked to the Hussey organization—with utmost confidence—for their sheet copper and copper product needs. These contractors have learned that, during the intervening eighty-five years, the Hussey organization has never wavered from its established policy of producing only the highest grade materials.

HUSSEY SERVICE

As indicated at the top of the page, warehouse stocks are available at points of vantage about the country. From these stocks prompt shipments are assured at all times.

HUSSEY PRODUCTS

Briefly listed on this page are the various products of the Hussey organization, along with sizes of items in stock:

HUSSEY COPPER FOR FABRICATING

Sheet Copper—Plain, all finishes, for every purpose. Lead Coated, Tin Coated, Nickel Plated.

Copper in Rolls—All finishes for roofing or fabricating. Also Spring and Brush Copper.

Strip Copper—Hussey Resquared Strip Copper is flat with edges absolutely parallel. Proper size and temper for conductor pipes, gutters, valleys, flashing, and general roofing purposes.

HUSSEY COPPER PRODUCTS

Corrugated Round Copper Conductor Pipe—Sizes 2 in. to 6 in. 10 ft. Lengths.

Corrugated Square Copper Conductor Pipe—Sizes 2 in. to 5 in. 10 ft. Lengths.

Plain Round Copper Conductor Pipe—Sizes 2 in. to 6 in. 10 ft. Lengths.

Copper Straps—For square pipe only. 2 in. to 5 in. Copper Eaves Trough—Single Bead, Lap Joint; Double Bead, Lap Joint; Single Bead, Slip Joint; Double Bead, Slip Joint. Sizes 3 in. to 10 in. 16 oz. 10 ft, Lengths.

Copper Gutter Ends, Caps and Outlets—all sizes.

Copper Roof Gutter—All sizes. All Shapes. All weights.

Copper Roof Ridging—Sizes 7 in. to 14 in. 10 ft. Lengths.

Copper Eaves Trough Mitres—Inside Corner; outside corner. Single Bead, Lap Joint; Double Bead, Lap Joint; Single Bead, Slip Joint; Double Bead, Slip Joint. Sizes 3 in. to 7 in.

Corrugated Copper Round Expanding Elbows and Shoes—30°; 45°; 60°; 75°; 90°. 16 oz. sizes 2 in. to 6 in.

Corrugated Copper Square Expanding Elbows and Shoes—45°; 60°; 75°; 90°. 16 oz. Sizes 2 in. to 5 in

Plain Round Copper Elbows and Shoes—30°; 45°; 60°; 75°; 90°. 16 oz. Sizes 2 in. to 6 in.

Copper Cut-Offs—Plain Round. Sizes 2 in. to 6 in. Square Corrugated, Sizes 2 in. to 5 in. Round Corrugated, Sizes 2 in. to 6 in.

Copper Wire Conductor Strainers—Round and Rectangular. Sizes 2 in. to 6 in.

Copper Conductor Heads—To fit Round or Square Pipe.

Gutter Hangers—Adjustable Bronze or Copper. Also Copper Strap Hangers. All standard sizes.

Copper Conductor Pipe Hooks—Corrugated Round Hinged Hooks, (Wood Drive) Sizes 2 in. to 6 in. (Brick Drive) Sizes 2 in. to 6 in. Plain Round Hinged Hooks (Wood Drive) Sizes 2 in. to 4 in. (Brick Drive) Sizes 2 in. to 6 in.

Copper Conductor Pipe Sickle Hooks—Corrugated, Sizes 2 in. to 4 in. Plain, Sizes 2 in. to 6 in. Square Wired, Sizes 2 in. to 5 in. For Wood and Brick.

Cast Bronze Pipe Fasteners—For Brick, Stone and Wood. All sizes.

Copper Strap Hangers-Sizes 4 in. to 6 in.

Copper Shingles—Various weights. 16 oz. recommended. 133 Shingles to the Square.

Soldering Coppers—Bottom, Roofing, Hatchet and Pointed. Also special styles to specifications.

Copper Rivets—Flat Head Copper Tinner's Rivets. Brazier Rivets. Round, Flat, Oval Head or Special Rivets.

Copper Wire Nails—Regular and Slating. Special styles made to specifications.

FURTHER INFORMATION

Further detailed information regarding any of the items listed on this page will gladly be furnished upon request. Just address the nearest office listed above.

Help YOUR BUSINESS during 1934 BY SELLING

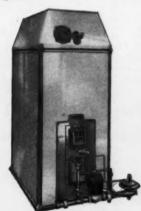
ROUND OAK FURNACES

A well-known name for Quality and Dependability



THRIFT STEEL

Supplied in four sizes, this electric arc-welded steel furnace meets the demand for contractors and builders for a quality yet low priced furnace. It has Round Oak's dependable construction and workmanship throughout.



ROUND OAK **GAS FURNACE**

Construction features provide a flue gas travel and increased heating surfaces which give maximum efficiency. Heavy copper-bearing boiler-plate, welded and absolutely gas tight. Attractive in appearance and compact. Built in units so one or more can be used according to heating requirements.



MOISTAIR BOILER-PLATE

A Complete Line of COAL • OIL • GAS **FURNACES** to Meet Every Warm Air Heating Problem

An are-welded, copper-fused boiler plate, gas and dust tight furnace. Baffled kidney-shaped radiator with direct draft damper control... heavy brick firepot linings... special design of water pan... large milled-fitted doors... these are a few of the special features which make the Boiler-Plate a better steel furnace.



OIL MASTER

Entirely new and different in design and construction. Exclusively for oil burning. Built of copper alloy, are welded, gas and dust tight. Large radiating surface, long fire travel result from triple radiator construction. Adapted to any good and efficient oil burner.



THRIFT CAST

The Round Oak well-built, substantial furnace at low cost. Offered especially to contractors and builders to meet the demand for an efficient and dependable furnace at cost. Supplied in three sizes.



Write or wire us for complete information

ROUND OAK FURNACE COMPANY, Dowagiac, Michigan

D I S T R I B U T O R S
SIOUX FALLS CORRUGATING CO., SIOUX Falls, S. D.
WATERLOO METAL & MFG. CO., Waterloo, Iowa

HAW HARDWARE CO., Ottumwa, Iowa



Beautiful and Economical Metals for Every Type of Fine Work.

APOLLO Chrom and NickelCopper, APOLLO ChromZinc, APOLLO NickelZinc, APOLLO ChromSteel, APOLLO Chrom and Nickel Tin, Brass and CopperTin.

Order from Your Jobber, demanding APOLLO Sheets, the Original and Genuine Pre-Finished Metals.

APOLLO METAL WORKS-BOX AA-LA SALLE, ILL.

Apollo ChromCopper

Rust-proof, tarnish resisting sheets for use on novelty boxes, bars, tables, sinks, signs, canopies, ice cream cabinet tops, restaurant equipment, refrigerators etc.

Copper and Chromium, united in a metal of extraordinary value, is presented to the trade for work that calls for a tarnish resisting sheet possessed of pliability, and Pre-Finished.

APOLLO ChromCopper is rust-proof. It is practically immune to the attacks of oxidation. It resists the action of fruit and food acids and alkalies, under general typical conditions. It cleans easily and quickly with merely soap and water; solders without difficulty; forms up in the brake with the well known and

popular workability of cold rolled copper.



It does not wear noticeably because Chromium is possessed of a lubricating quality of surface

sessed of a lubricating quality of surface that enables objects to slide over it easily without eroding.

It is supplied in standard sheets 36x96" in the following weights, either Highly Polished or Satin Finished:

36	oz.	weighs	approximately	54	lbs.	per	sheet
24	OZ.	weighs	approximately	36	lbs.	per	sheet
20	oz.	weighs	approximately	30	lbs.	per	sheet
18	OZ.	weighs	approximately	27	lbs.	per	sheet
16	oz.	weighs	approximately	24	lbs.	per	sheet
14	07	weighe	annrovimately	91	lhe	nor	choot

Apollo ChromSteel

To selected cold rolled steel is added a rust resisting plate of ChromNickel that is chip proof, resistant to tarnish and heat up to 800° F. The purpose of APOLLO ChromSteel is to offer manufacturers the means of making Chrome Finished articles with a metal that requires no plating or polishing after stamping and forming. It is used because of the definite savings it insures over the cost of finishing stamped parts. APOLLO ChromSteel can be soldered, stamped, bent and spot welded.

Used for: Electric toasters, grills and heaters; push plates, ferrules, ash trays, vanity case mirrors, dispensing machines, angles, dust pans, radiator shields, signs, name plates, buttons, buckels, advertising displays and serving trays.

Gauge	Size	Weight per Sheet
No. 18	20x96"	26.5 lbs.
No. 20	20x96"	20.0 lbs.
No. 22	20x96"	16.0 lbs.
No. 24	20x96"	13.3 lbs.
No. 26	20x96"	10.2 lbs.
No. 28	20x96"	8.5 lbs.
No. 30	20x96"	7.0 lbs

APOLLO NickelSteel is used on the same applications as APOLLO Chrom-Steel, but for the purpose of reducing costs, or where a Nickel finish is required.

Apollo ChromZine

To selected rolled zinc is added an alloy plate of rust-proof metal the result of which integration is a sheet of unusual beauty, economy and general usefulness in home and restaurant repair and replacement work.



APOLLO ChromZinc is rust proof, practically immune to tarnish under ordinary conditions, resistant to fruit and food acids, and alkalies. It is light, pliable, and easily worked. It possesses the attractive Chrom blue lustre that matches plumbing and lighting fixtures generally used in modern homes. It is recommended for use in place of less attractive and more costly alloy sheets, on table tops, range hoods, drain boards, shelf covering, coffee urn stands, trays, panels, angles, reflectors and decorative effects.

For prompt shipment from Jobbers' stocks No. 11 gauge (.024") 36×96 " weighs $21\frac{1}{2}$ pounds and is always available in Bright Finish.

Apollo NickelZinc

APOLLO NickelZinc is designed for sheet metal contractors who need a rust proof, bright, easily worked sheet metal for covering table tops, range hoods, shelves, back bars etc. It is made by uniting a heavy layer of nickel to rust proof, selected rolled zinc. It can be double seamed, soldered, stamped or



drawn without chipping, cracking or peeling of the surface and may be cleaned by merely wiping with a soft dry cloth.

APOLLO NickelZinc is used by manufacturers whose needs call for Nickel Plated parts, and who, by using this economical material, can stamp or otherwise fabricate articles fully equipped with a Bright Finish NickelPlate, without the costs and delays connected with plating individual parts.

Manufacturers of metal parts generally use APOLLO NickelZinc for novelties, compact mirrors, buttons, combs and small drawn parts.

Jobbers supply APOLLO NickelZine in No. 9 (.018") in the sizes listed below.

Apollo ChromTin

Prime sheets of special manufacture to insure smoothness and fine grain structure are the basis of APOLLO Chrom-Tin. This inexpensive sheet is rust resisting and practically tarnish proof under everyday conditions. It is a beautiful metal that can be formed and stamped into parts that are distinguished by the full, brilliant ChromLustre, or soft SatinSheen without plating, brushing or burnishing.

Gas stove pipes, elbows and collars made from APOLLO ChromTin retain their original appearance for years without attention and are in growing demand. APOLLO ChromTin is also used for various types of advertising displays; brush ferrules, cans, lithographed signs, trays, toys, etc.

Gauge		Size		Sheets per Box	Weight per Box
65 lbs.	20	x28	99	112	130 lbs.
70 lbs.	20	x28	99	112	140 lbs.
75 lbs.	20	x28	99	112	150 lbs.
80 lbs.	20	x28	99	112	160 lbs.
85 lbs.	20	x28	**	112	170 lbs.
90 lbs.	20	x28	**	112	180 lbs.
95 lbs.	20	X28	89	112	190 lbs.
100 lbs.	20	x28	89	112	200 lbs.
107 lbs.	20	x28	99	112	214 lbs.
128 lbs.	20	x28	**	112	256 lbs.
135 lbs.	20	x28	99	112	270 lbs.
135 lbs.	24	X27	29	56	156 lbs.
135 lbs.	27	x28	**	56	182 lbs.
135 lbs.	24	x401	6"	56	234 lbs.
135 lbs.	22	X44	-"	56	233 lbs.
135 lbs.		4×45	**	56	244 lbs.
185 lbs.	11	X44	89	112	283 lbs.
185 lbs.	111	4×45	89	112	244 lbs.
155 lbs.	20	x28	69	112	155 lbs.
175 lbs.	20	x28	99	112	175 lbs.
195 lbs.	20	x28	99	112	195 lbs.
		-			

Apollo NickelTin BrassTin-CopperTin

For Sizes and Gauges See APOLLO ChromTin

APOLLO NickelTin is made from the special stock used for APOLLO Chrom-Tin; equipped with a heavy rust resisting plate of Nickel and polished to a brilliant mirror lustre. Its uses are practically the same, being employed for less costly items or those on which resistance to tarnish is not primarily essential.

APOLLO Brass or CopperTin is employed when these finishes are needed at only a small fraction of the cost of solid brass or copper. Recommended lacquered.

Ask us to place your name on our mailing list to receive interesting news and samples of new developments in metals designed for sheet metal contractors.



with the Westinghouse Sheet-Metal Welder

WELDING thin-gauge metals . . . stainless steel, aluminum and non-ferrous alloys . . . can now be done easily at low cost with the Westinghouse FlexArc a-c. welder. (above).

It is easy to operate; takes current from the ordinary 220 or 440-volt electric power outlet; uses less than 15 cents worth of electric power an hour; and produces high-quality welds.

In completely solving the problems of sheetmetal fabrication this new welder can be your most effective weapon for winning new business.

Let us demonstrate its merits to you. Just mail the coupon.



• Service Station Erection—One of a large number of service stations completely shop-fabricated by a California contractor with FlexArc Welders. Frame work is angle iron, the covering 16-gauge sheet steel.



• Shop Fabrication—Because of its easy portability, many contractors use the FlexArc Welder in the shop for the fabrication of sections, then haul the same machine to the scene of erection.



Steel-house Construction—The first frameless steel house, erected at Solon, Ohio, was completely arcwelded. A FlexArc Welder supplied the current for shop and field fabrication.



• General Contracting Work—The FlexArc A-C. Welder enables you to go after these jobs: ventilating and furnace ducts, air conditioning installations, roofing, gutters, cornice work, signs, ornamental work.

Westinghouse

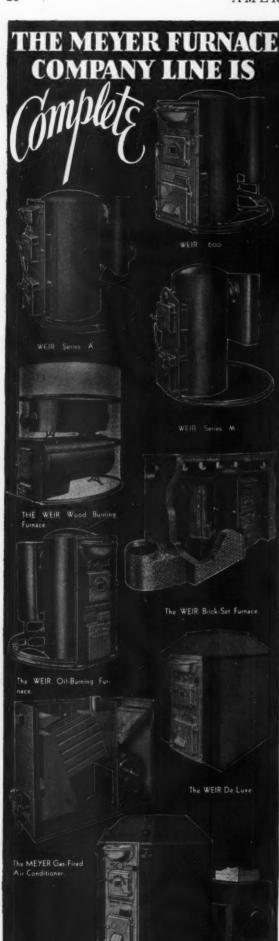
Quality workmanship guarantees every Westinghouse product



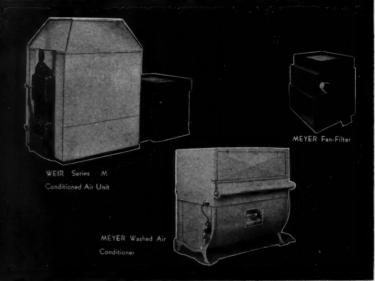
FREE DEMONSTRATION

Westinghouse Electric & Manufacturing Company Room 2-N-East Pittsburgh, Pa.

Gentlemen: I am interested in the FlexArc a-c. Sheet Metal Welder. Please write me concerning a free demonstration.



The WEIR Conditioned A



We ARE "On Our Way"

N SEVERAL of his recent utterances, on the radio and otherwise, President Roosevelt has increased the confidence of the people by stating that "WE ARE ON OUR WAY."

We, here at the Meyer Furnace Company, believe that.

Within the past few months we have experienced unmistakable evidence of increased confidence on the part of our dealers as well as the public—and this evidence has come from widely separated sections of the country.

The NRA has undoubtedly benefited many thousands of people and we are confident that the adoption of Codes of Fair Competition will prove to be an extremely valuable influence in business in the coming years.

Taken all in all, 1933 has proven to be a better year than anticipated during the "dark days" at the beginning, and with business better than it has been, plus every reason to believe that the improvement will continue, we are looking forward confidently to 1934.

NOW is the time to "get set" with the line that is COMPLETE as well as backed by SALES AND ENGINEERING CO-OPERATION THAT SELLS AND SATISFIES

Let us explain our 1934 PROFIT PLAN for Dealers.

PEORIA, ILLINOIS



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INDEPENDENT "FABRIKATED"



Design No. 311 SE "Fabrikated." Showing the Straight Edge.

Two of the 25 New and Modern Designs in "Fabrikated" Forced Air Registers which can be furnished in many styles of setting to meet every need.

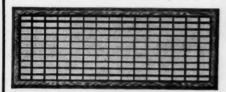


Design No. 211 BE "Fabrikated." Showing the Beveled Edge.

Independent Wall Frame. Eliminating unsightly plaster cracks and discoloration. Rigid in construction. Easy to install. Mechanically correct.



type "Fabrikated" Multiple Valve Forced Air Registers. Furnished in any design with either Vertical or Horizontal Valves.



"Fabrikated" Cold Air Faces. 82% Open Area.

GRILLES Wrought Steel and Other Metals

Many Independent designs. Made to order in Any Size. Your grille problems are individual attention.

Other types of Independent Setting Frames are available. For Baseboard or old house work. All practicable and mechanically correct.



"Fabrikated" Cold Air Intakes. Furnished in all designs and many styles of setting.



Close Mesh "Fabrikated." 75% Open Area.

"Fabrikated" originated by Independent and as Independent builds them, have had years of outstanding success and popularity. Furnished in any size — any finish.



Mission Design Baseboard Registers.-One or two piece style.



abrikated" Floor Registers. Matching the Cold Air Face. "Fabrikated"



"Fabrikated." Mesh Close

Other conventional styles and types of floor registers meeting all needs, are built by Independent.

INDEPENDENT REGISTER & MFG. CO. 3747 EAST 93rd STREET - CLEVELAND, OHIO

ASK FOR

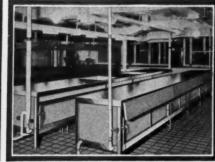
COMPLETE CATALOGUES



SHEET METALS









U. S. S. 18-8 STAINLESS STEEL

ARMCO RUST-RESISTING SHEETS

BEST QUALITY STEEL SHEETS

PAINTGRIP ARMCO AND STEEL

PATENT LEVELED

COPPER - ZINC - TIN
PIPE - VALVES - FITTINGS
*
TUBING-SEAMLESS AND STAINLESS

Trained Metallurgist and Service Engineers

BROWN-WALES COMPANY

493 C STREET, BOSTON, MASS., LIBERTY 6100

» » » Branch at Lewiston, Maine, Dept. A « « «

THE Liberty LINE *

A CAST IRON OR STEEL FURNACE FOR EVERY REQUIREMENT:



Because each component part has been scientifically designed into it, the MELLOW Furnace is a truly perfect heating unit.

Castings from special analysis iron make for long life and eliminate danger of cracking and burnouts. One-piece radiator prevents leakage. Greater heating radiation is provided by heavily corrugated combustion chamber. SPECIFICATIONS FOR PIPE FURNACES

WARM AIR FURNACE

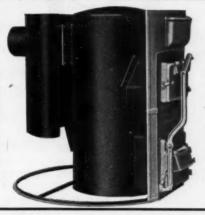
FURNACE installation of furnace. We will be pleased to furnish you with complete details of the MELLOW Furnace.

AND	FOR	PIPELESS	FURNA	CES

Furnace No.	110	120	130	140	150	160	11	Fur	nace	No	210	220	23	0 2	10	250	260
Dia. Casing Dia. Fire-Pot Dia. Grate Ht. Front	36" 18" 17"	40" 20" 181/4"	44" 22" 20"	48" 24" 21"	52" 26" 24"	56" 28" 26"		Dia.		egister. rm Air t.	21"	21"	21	21	2	71/4"	271/4"
Casting Dia, Smoke	50"	50"	52"	52"	52"	59"		w	th C	asing.	960	1100	118	5 150	00 1	840	2111
Pipe	8"	8"	8"	9"	9"	9"		5	SPEC	CIFICA	TION	S. CA	SING	GAN	D C	ANC	PY
Grate Surface Shpg. Wt.		262	314	322	452	508			CAN	OPY	1	CAS	ING				ING Sheet)
with Casing Shpg. Wt.	815	925	1135	1345	1595	1925		-		1		h Wio		Lengt	hj	-	
without Casg. Htg. Area	750	850	1050	1250	1500	1800		No.	Dia.	Cirem.	Bot's Shee			of Sheets		lth.	Length
	3321	4276	6130	7660	8961	10064		110 120	36"	9'51/8'			4"	7'33%		4"	7' 8'
1000 Cu.Ft.	8-10	10-14	14-18	18-22	22-26	26-30		130	44"	11'63%	26	2	4"	9'214	2	4"	8'9"
(Sq. In.) Btu. Devlpd.	346 53970	422 65830	495 77220	609 95000	791 123390	889 138680	1	140 150 160		12'65/8 13'77/8 14'73/4	26	2	4"	10'3" 11'4!4 12'174	2		9'11" 11'2" 11'934"

CRESCENT RADIATOR FURNACE

Where a heavy, yet economical steel Where a heavy, yet economical steel furnace is required, the FRONT RANK CRESCENT meets the need every time. The drum and head are of 3/16-inch boiler plate, riveted and welded. Radiator is large, made of 12 gauge copper bearing steel and welded. Grate is roller bearing mounted. In fact every desirable feeture is incorporated in the FRONT feature is incorporated in the FRONT RANK CRESCENT. Let us send you detailed information.



SPECIFICATIONS FOR FRONT RANK CRESCENT RADIATOR FURNACES

Number of Furnace	22A45	26A51	29A57
Diameter of Casing	45"	51"	57"
Diameter of Drum	22"	26"	29"
Width Lower Casing	24"	24"	24"
Width Upper Casing	26"	26"	28"
Height Cased (for 14"		-0	
Collar)	68"	68"	70"
Height of Fire Brick	22"	22"	22"
Height of Drum	52"	52½°	541/2"
Size Radiator Collar	8"x81/2"	8"x131/2"	10"x13"
Height of Radiator	34"	34"	36"
Size of Radiator	7"x31"	9"x40"	11"x441/2"
Diameter Smoke Pipe.	9"	9"	10"
Size Feed Door Opening	10"x12"	10"x14"	10"x14"
Size Ash Door Opening.	10"x16"	10"x16"	14"x18"
Shpg. Wt. Less Casing.	1000	1223	1377
Heating Surface, Sq. In.	6491	7940	9444
Rating, So. In	498	695	824
Btu. Developed	77688	108420	128544

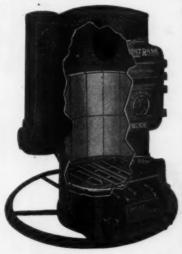
The advantages of the FRONT RANK Heating System are manifold. One important advantage is its ability to burn any kind of fuel equally efficiently and economically. All of the fuel is burned and all the heat is utilized. It withstands the stress and strain, the contraction and expansion which result from

Heating Surface, Sq. In. Grate Area, Sq. In. Btu. Developed. Rating, Sq. In.

the use of oil or gas. All seams are riveted, caulked and welded, assuring a positively leakproof unit. Copper bearing steel and gray iron castings are used for all parts. We've an interesting story to tell about the FRONT RANK and its advantages over ordinary heating plants. Write for it.

SPECI	FICATION	IS FOR F		NK HEAT	ING SYS			
No. of Furnace	381	45XL	455	51XL	515	575	635	665
Diameter of Casing	38"	45"	45"	51"	51"	57"	63"	66"
Stretch-out of Casing	9'111'8"	11'93%"	11'93/8"	13'41/8"	13'41%"	14'1114"	16'55%	17'13%"
Width Lower Section Casing		23"	24*	23*	24"	24"	24"	26"
Width Middle Section Casing	30".	26"	30"	26"	30"	30"	30"	36"
Width Canopy not less than	12"	15" 67"	15"	15° 67°	16" 73"	18"	18"	24"
Height Cased not less than*	68"	67"	72"	67"	73"	75"	75"	89"
Diameter of Drum	18"	22"	22"	26"	26"	29"	32"	32"
Height of Drum	58"	52"	58"	26" 53"	59"	62"	62"	69"
Diameter of Radiators	9"	10"	10"	11"	11"	13"	15"	18" 42"
Height of Radiators	37"	29"	34"	29"	35"	38"	38"	42"
Diameter of Smoke Pipe	8"	9"	9"	9"	9"	10"	10"	10"
Size Feed Door Opening	10 x12	83/4x121/2		83/4x121/2	121/4×14	121/4×14	121/4×14	121/4×14
Size Ash Pit Opening		10 x151/2	10 x151/2	10 x151/2	10 x151/2	10 x17	10 x17	10 x17
Shipping Weight, less Casing	750	1000	1000	1200	1200	1450	1650	1800
*Lowest point of canopy m	ust be at le	east 8 inche	es above dr	um head.		-		

CERTIFIED MEASUREMENTS FRONT RANK FURNACES 471 133068 177 54600 258 82524 388 105924 158340



LIBERTY FOUNDRY COMPANY

ST. LOUIS, MO.



STANDARD PREMIER



FOR AS LITTLE AS



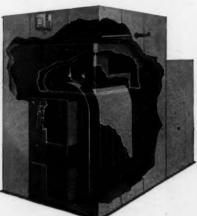
DE LUXE PREMIER



DUO-WELD PREMIER



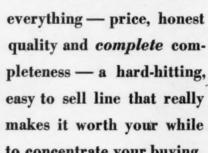
The Premier Line offers to concentrate your buying.



PREMIER AUTOMATIK FOR OIL BURNERS AND COAL STOKERS



PREMIER COMBINATION UNIT





STANDARD PREMIER BLOWERS AND AIR CONDITIONERS



DE LUXE PREMIER BLOWER

* PREMIER of DOWAGIAC (Mich.): Please send price list and full facts and figures. If I want a salesman to call, I will check here ().

CITY..... STATE.....

NAME

DE LUXE PREMIER AIR CONDITIONER



FIGHTING CORROSION is a Profitable Fight

HEAVY LOSSES from corrosion are not inevitable. There is a ready, economical way to reduce these losses radically—use Inland Copper-Alloy Steel.

It is an accepted fact that copper-bearing steel endures corrosion longer than any other ordinary grade of iron or steel. Its use is logical on all of the innumerable applications where corrosion is the principal menace to long and profitable use.

For roofs, smokestacks, siding, and the like, fight corrosion with Inland Copper-Alloy Steel—get more value for very little added cost. For products you make for sale offer that universal sales appeal—more value per dollar—by using Inland Copper-Alloy Steel.

Specify Inland Copper-Alloy Steel on your next order. Any Inland Rolled Steel Product can be supplied in this grade of steel.

INLAND STEEL COMPANY
38 So. Dearborn Street, Chicago, Illinois

ENDURES LONGER

COSTS VERY LITTLE MORE THAN ORDINARY STEEL

MADE AS STRIP, SHEETS, ANY ROLLED STEEL PRODUCT

USED WHEREVER
THERE IS MOIST AIR
INDOORS OR OUT

ACCEPTED PROOF

from and steel sheets have been ranked occording to rust and corrosion resistance under atmospheric conditions by the American Society for Testing Materiels ranking based on tests at Fort Sheridan, Annapolis and Pittsburgh. Copper-bearing steel sheets lead the list.

ABLE SERVANT OF THE CENTRAL WEST

Sheets Strip Tin Plate

STEEL

Rails Track Accessories

Bars Rivets Billets

For QUALITY HEATING - INSTALL the Industry's

Finest GRAVITY and FORCED-AIR Registers

The U.S. Predominate among the Nation's Best Installers of Heating and Air Conditioning



National Baseboard Register Two-Piece with Flange Over Frame



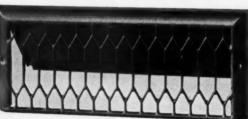
JONES NATIONAL REGISTER



Panama Baseboard Register Two-Piece with Flange Over Frame



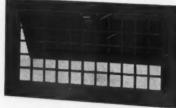
U. S. Bar Design Flush Type Register One and Two-Piece



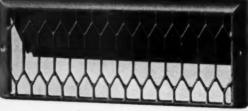
Panama Forced-Air Baseboard Register U. S. Special Steel Face



U. S. Forced-Air Baseboard Register One and Two-Piece



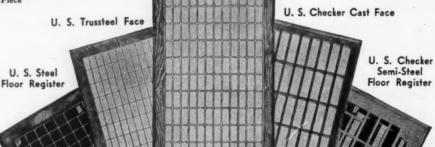
U. S. Flush Type Register One and Two-Piece





Trussteel Forced-Air Register Baseboard One and Two-Piece

Semi-Steel



WRITE FOR CATALOG NO. 21 GRAVITY REGISTERS



WRITE FOR CATALOG NO. 23 FORCED-AIR REGISTERS

United States Register Co., Battle Creek, Mich.

BRANCH OFFICES AND FACTORIES

MINNEAPOLIS, MINN., KANSAS CITY, MO., ALBANY, N. Y. and DENVER, COLO.

AVAILABLE SOON!

F. Meyer & Bro. Co. (The "HANDY" Pipe People) are preparing a brand new catalogue and guide on forced air duct-work and allied construction that will far surpass anything you've seen.



It will be complete. Individual sections and assemblies will be shown, together with detailed list prices, so that you can ACCURATELY figure all such ductwork for air-conditioning and forced-air heating from the material contained therein.

Send in your request NOW for a copy.



This new catalogue is designed to become a supplement to our regular "HANDY PIPE" catalogue; and this new line of materials and fittings supplements and makes more complete (including, of course, registers, etc.) the well-known HANDY line which truly covers

"EVERYTHING NEEDED IN THE INSTALLATION OF WARM AIR FURNACES"

F. MEYER & BRO. CO., 1311 S. Adams St. Peoria, III.

Let the famous R&B line build good will-and greater profits-for you!



EVERY R&B installation you make builds prestige for you—further establishes your reputation as a reliable contractor. For R&B merchandise is reliable merchandise—living up to every promise you make for it—giving years of efficient, satisfactory performance.

Specify R&B equipment—it pays in more ways than one!

Let R&B help you, too, to get more business through its famous Selling and Time Payment Plan that turns

prospects into customers and, after they're sold, takes care of money collections for you. It's a wonderful sales builder—take advantage of it. Further details on request.

Above. The R&B "Superior Type A" warm air heater—a highly improved quality heater scientifically correct in design and construction.

Right. The Richardson "Perfect Positive" air-circulating heater—an excellent heater of modern design with latest mechanical improvements. Below. The Richardson "Perfect" Warm Air Heater, one of the most popular heaters in the R&B Line. Very economical to install and to operate.



Manufacturers of Fine Heating and Cooking Equipment since 1837

For nearly a century R&B has been producing all types of heating and cooking equipment. Through all these years the same high standards of quality and mechanical perfection have been upheld—resulting in the enviable position which R&B holds in the industry today.

RICHARDSON & BOYNTON CO.

244 MADISON AVE., N. Y. C.

Branch Offices in Principal Cities

WARM AIR HEATING . SHEET METAL CONTRACTING . AIR CONDITIONING

For 1934

THIS 1934 AMERICAN ARTISAN Directory Number is presented to the warm air heating, sheet metal contracting and air conditioning industry as the second step of the program started last year of providing every twelve months a complete, up to date listing of sources of supply for the hundreds of products sold and used in this field.

Until American Artisan's first Directory Number last year there existed no comparable reference listing which enabled the buyer to find under one cover the manufacturers of any product he might be seeking merely by looking up the product by name; or to locate, from trade name only, the product for which it stands and the manufacturer making it; or to find the complete address of any manufacturer. Now, by keeping these Directory Numbers each year, the buyer has at his finger tips, at all times, this important information.

Fifty-one pages of this essential directory will be found in this issue, completely and conveniently indexed, brought up to date in every respect from the similar data listed last year. There have been many changes and improvements—further breakdowns of classifications, new classifications added, manufacturers who have dropped by the wayside during the year "killed," new manufacturers entered.

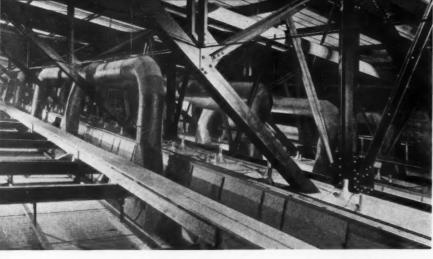
We call particular attention to the various air conditioning classifications in which every effort has been made to define exactly the type of apparatus meant and to get each manufacturer in his proper classification. Furnaces have been separated into "steel" and "cast iron" as well as into various types. It should be noted in this connection that the classification of "Oil Burning Furnaces" is meant to cover only the combination oil burner and furnace units, while that of "Gas

or Oil Burning Furnaces" covers the furnaces specially adapted to oil or gas burning, as distinct from the combination units and the coal burning types. Because of similar care used throughout in defining and cross-indexing all classifications there should be no difficulty in locating any product.

Manufacturers have co-operated in making this the kind of a reference issue which will be of constant, practical value by using their advertising pages largely for the purpose of giving catalog information on their complete lines.

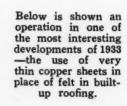
Because of the rapidly changing picture in this active industry each year, coupled with the many new developments in warm air heating, sheet metal contracting and air conditioning, AMERICAN ARTISAN feels that its Directory Numbers represent a service of real value to the industry. The hundreds of requests received in the past for names of manufacturers of this, that and the other product have been evidence that it is difficult to maintain a catalog and circular file that adequately serves the need for quick, accurate and up to date information at the time when specifications or customer requests call for immediate action. It is to eliminate this difficulty during 1934 and to substitute for it something not only more convenient, but far more complete, that we give you this issue.

In addition you will find other material of interest and value in the following pages—developments in architectural sheet metal, ventilation and metal houses; the furnace manufacturer's code which will direct trade practices in the coming months; the "Air Conditioning" section with its presentation of the perfect adaptability of the warm air heating system to complete or partial air conditioning; charts and tables to simplify necessary calculations.



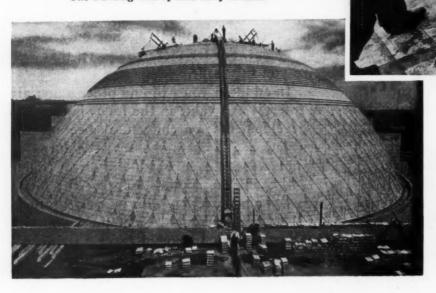
Interesting Developments Ventilating in 1933

The distributing ducts of the air conditioning system of the Grand Rapids, Michigan, Civic Auditorium are part of one of the largest ventilation systems completed in 1933.



The copper-sheathed roof of the Canadian National Railway Hotel, Vancouver, B. C., Canada, was one of the largest copper installations of recent years in the northwest.

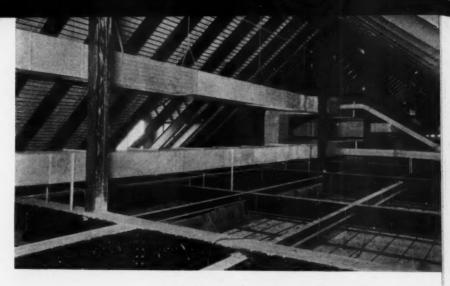
The building was opened early in 1933.



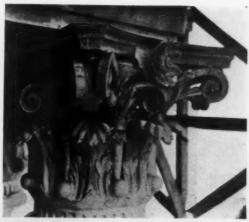
The dome of the new Cincinnati Union Station completed in 1933 was one of the most remarkable water-proofing, roofing and tile laying projects of late years. The photograph shows a detail in the laying of the tile and the ribbed pattern which required careful matching.

Projects and in Sheet Metal, and Roofing

1933, in terms of money volume or number of sheet metal, ventilating or roofing projects, did not equal previous years, perhaps, but in interest and importance the outstanding projects and developments were notable. Governmental assistance made possible the completion of numerous important projects, quite equal in size, or importance to those of past years. In addition, a number of definite advancements in technique were introduced. Some of these projects are pictured here.



Each of four buildings in the quadrangle of the Juvenile Courts building, Cleveland, one of 1933's interesting projects, has its own ventilation system with most of the duct system placed in the attics. Above is a view of one system.



Right is a closeup view of a corner of the cornice of the recovered dome of the Illinois State Capitol—one of the largest metal jobs of 1933. The old metal cover of the entire dome was duplicated and recovered in zinc.



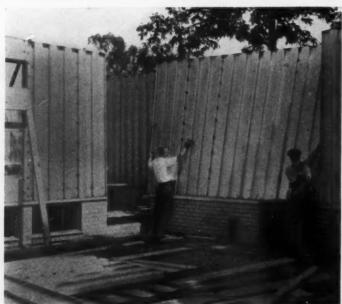
Above is a closeup view of one of the zinc capitols which exactly duplicates the previous section.



The Veteran's Building and Opera House, San Francisco, completed in 1933 are two of the largest copper roofing applications of recent years and the west coast's contribution to notable sheet metal projects of 1933.



Metal House Progress in 1933

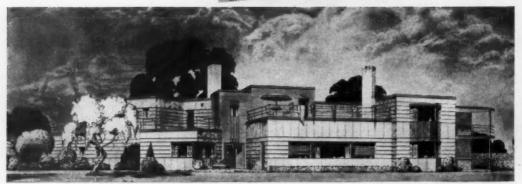


The American Rolling Mill house at Chicago's Century of Progress was one of the year's notable metal houses. A complete metal exterior, of panel construction, with an enameled surface in colors, was placed on a structure of modernistic design.

A metal house, using prefabricated and welded wall sections and floors, with sections welded in the shop and field welding of these sections into full wall sections was erected in Cleveland early in 1933. Unusual public interest developed.

A modern steel home containing three bedrooms, living room, bath, dinettekitchen as shown at the right was built by the Universal House Corporation at Zanesville, Ohio. The builders state the house can be duplicated for \$2,770 to meet the demand for low cost housing.





In Rome, New York, this copper sheathed house was built for a physician. The frame is steel covered with lead coated copper sheets laid on two thin hollow block walls. Standing seams make the vertical and horizontal lines.

One of the most interesting sheet metal developments of 1933 was the metal houses opened to public inspection. Counting in the metal houses at Chicago's fair, it is probable that millions of home owners inspected metal houses last year. This sheet metal industry contribution to better housing foreshadows revolutionary changes in house construction.

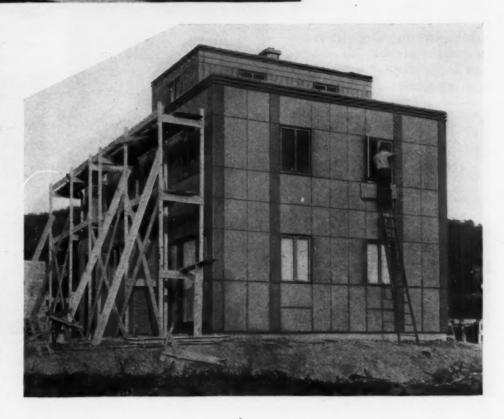




The Stran-Steel house, displayed at the Century of Progress, uses a vitreous enameled sheet backed up by one inch of light weight concrete. The sections are erected as slabs with the edges bound by stainless steel strips. The construction is a patented process.

Above—The world's first porcelain enameled house was built in 1933 in Cleveland by the Ferro Enamel Corporation. The small enameled sheets are formed to simulate wide siding. The design is semi-modern with large off-center windows. A furnace air conditioning system is used.

A steel house built by the Wheeling Corrugating Company in Wheeling, W. Va., has steel stud and sheet floor decks welded into one piece, steel stud and sheet walls with both floors and walls insulated.



The National Warm Air Meeting

HE annual meeting of the National Warm Air Heating and Air Conditioning Association, held December 4, 5 and 6 in Cincinnati, Ohio, was without doubt one of the most important meetings of recent years. The principal item of business was the discussion of the industry's code, which was signed by President Roosevelt on November 27 and went into effect December 11.

Three hundred and thirty members and visitors were registered for the meeting. Out of 79 member manufacturers of furnaces, 76 were present at the meeting. Due to the fact that the industry's code was signed and was to go into effect the following week, the manufacturers came to find out just what the code entailed. In order to make the code sessions authoritative, the association had as its guest Beverly S. King, the Assistant Deputy Administrator, who conducted the code hearings.

What the code means to the industry is plainly indicated in the actual code, which is published in this issue. Particular attention is called to the paragraphs covering the relationship of manufacturers to one another and to the dealers or buyers of their products.



L. R. Taylor Second Vice-President



H. T. Richardson President

The repair parts catalogue committee reported that the catalogue has been printed and more than 16,000 copies have been mailed to dealers. As reported at previous meetings, this catalogue is for free distribution to dealers and shows original parts for a large number of furnaces.

The report of the research staff on summer cooling will be presented at the February A. S. H. & V. E. meeting in New York and will then be published in American Artisan. The report covers experiments to reduce the total cooling load required for the Research residence by means of circulated air cooling using various applications of ventilating and exhaust fans, plus intelligent use of awnings, open and closed windows and night air.

Several addresses of interest and importance were delivered

OFFICERS, 1934
President—H. T. Richardson.
1st V.-Pres.—W. L. Rybolt.
2nd V.-Pres.—L. R. Taylor.
Managing Director—Allen W.
Williams.

DIRECTORS—2 YEARS
C. A. Olsen
H. M. Thorne
Richard Judd
H. S. Sharp
DIRECTORS—1 YEAR
Dana W. Norris
D. M. Dobbins

during the sessions. The first of these was the annual report of retiring President W. L. Mc-Grath who reported in summarizing the last year's work that there has been a high mortality rate among the manufacturers, mostly among non-members of the association. Further the association despite conditions secured 21 new members in the year. Of interest was the assertion that cost of membership for the manufacturer had been reduced some 25 per cent and that in spite of this lowered cost the association had been able by reason of planned economies to continue and broaden its research

Mr. McGrath also emphasized the untiring efforts of members of the code committee—C. A. Olsen, H. T. Richardson, C. Ackerson, F. E. Mehrings, D. M. Dobbins, F. G. Sedgwick, H. P. Mueller, Dana Norris, and Allen Williams.

The Hon. Arthur P. Lamneck, congressman from the Columbus, Ohio, district, and well known to the industry from his many years association with the Lamneck company, gave some first hand observations of the last year's activity at Washington and dis-



Allen W. Williams Managing Director

cussed some of the most pressing problems.

The three basic plans, he said, are to raise prices for farm products because the farmer buys nearly one-half of all things sold; make credit easier and freely flowing into all channels of commerce and trade; and eliminate the unfair practices in all kinds of business.

Dana Norris, speaking on the subject "Can's and Can'ts of Air Conditioning" said one great need is some means for determining exactly what the thousands of items of apparatus now on the market really can do and prepare some basic definitions for air conditioning.

Air conditioning, he said, is two sided—winter and summer air conditioning. In winter we heat, clean, humidify, circulate and in summer we cool, dehumidify, clean and circulate. Of the two, winter air conditioning is most important because of the much longer season and the greater dangers from bad conditions.

Many problems must be solved, Mr. Norris declared. For instance, we must realize that there can be no such thing as a combination gravity and forced air system equally efficient; controls are little understood or appreciated and more attention must be paid them; filters are recognized as service units, but the contractor must do more selling on filters; air washers have proved unsatisfactory in general and improved design and operating characteristics must be looked into; coal is returning to favor because of reduced consumer income and the industry should try to give better coal fired jobs.

A. F. Frazee, speaking on "Conditions in Our Industry" took the session to task on several subjects which he said "need plain speaking."

"Most successes are due," he declared, "to general conditions and not to individual boasting. The code is the most important



Richard Judd Director, Two Years



C. A. Olsen Director, Two Years



H. S. Sharp Director, Two Years

accomplishment of recent years and it is to be hoped that the code will enforce those desirable conditions which members have not been able to enforce among themselves. The code can be successful only in the measure of honest cooperation given it by members. "Publicity is needed. Publicity for warm air heating, for the association, for the dealers, for the equipment. Standardized cost accounting is needed. We cannot deny that long datings and consignment have been twin evils for many years and many efforts have been made to stamp out these practices. Now the code specifically states that these two practices are against the rules and we may expect these evils to pass away.

"Mail order competition needs plain speaking. For years we have complained about mail order selling. There has been much secrecy and underhand conversation about manufacturers who sell the mail order houses and the direct-to-yous. We should expect that the code will bring these claims and counter claims out into the open where all of us can see them. Published price lists will show all of us just what the other fellow is doing and what he is selling for.

"The mail order business has never been responsible for more than ten per cent of our volume of business, but it has been the big bad wolf of the industry. Likewise jobber discounts and the selling to so-called installing jobbers or preferred customers has caused much argument and here again it is to be hoped that the code will wipe out this evil."

An inspiring address on why our industry should not overlook the sale of cooling equipment was delivered by Frank C. Lyons who explained how much an owner will pay for cooling when cooling is sold with the correct arguments.

Other matters of business were the election of officers as shown in this report, the report of the code committee by Professor J. D. Hoffman, who stated that the third edition of the Mechanical Code was now ready for distribution. Copies can be obtained from American Artisan or the National Warm Air association.



D. M. Dobbins Director, One Year



W. L. McGrath
Past President and Chairman, Code
Committee



Dana W. Norris Director, One Year

Code of the Warm Air Furnace Manufacturing Industry

To effectuate the policies of Title I of the National Industrial Recovery Act, the following provisions are submitted as a Code of Fair Competition for the Warm Air Furnace Manufacturing Industry, and upon approval by the President, shall be the standard of fair competition for this Industry, and binding upon every member thereof.

ARTICLE I-DEFINITIONS

(a) "The Industry" means and includes the business of manufacturing and selling by manufacturers of cast iron or steel warm air heating furnaces in the United States.

(b) "National Industrial Recovery Act" means the National Industrial Recovery Act approved by the President on June 16, 1933.

(c) "Act" means National Industria! Recovery Act.

(d) "Institute" means the Warm Air Furnace Manufacturers' Institute, a Trade Association.

(e) The term "Employee" as used herein includes any person engaged in any phase of the Industry in any capacity in the nature of employee, irrespective of the method of payment of his compensation.

(f) The term "Employer" as used herein includes anyone by whom such an employee is so engaged.

(g) "Effective Date" means the second Monday after this Code is duly approved by the President of the United States.

(h) "Jobber" means anyone whose sole business is to sell to dealers, heating contractors, and/or installers, and who does not perform, directly or indirectly, the functions of a dealer, heating contractor, or installer. If any application of this definition should work hardship upon any member of the Industry, or any customer, such member of the Industry, or such customer may apply to the Code Authority, which shall have power to grant such exemption as justice may require.

(i) "Dealer" and/or "Heating Con-

tractor," and/or "Installer" means anyone who buys the products of the Industry for resale to the consumer and/or installation in connection with such sale. If any application of this definition should work hardship upon any member of the Industry, or any customer, such member of the Industry or customer may appeal to the Code Authority, which shall have power to grant such exemption as justice may require.

(j) The term "Member of the Industry" means anyone engaged in the Industry, whether as an employer or on his own behalf.

ARTICLE II—CONDITIONS OF EMPLOY-

Section 1. (a) Employees shall have the right to organize and bargain collectively through representatives of their own choosing, and shall be free from the interference, restraint, or coercion of employer of labor, or their agents, in the designation of such representatives or in self-organization or in other concerted activities for the purpose of collective bargaining or other mutual aid or protection.

(b) No employee and no one seeking employment shall be required as a condition of employment to join any company union or to refrain from joining, organizing, or assisting a labor organization of his own choosing.

(c) Employers shall comply with the maximum hours of labor, minimum rates of pay, and other conditions of employment, approved or prescribed by the President.

(d) Employers shall not reclassify employees or duties of occupations performed by employees so as to defeat the purposes of the Act.

(e) Each employer shall post in conspicuous places full copies of this Code.

SEC. 2. Minimum Wages.—On and after the effective date the minimum wage which shall be paid by employers in the Industry to employees other than office employees shall be at the following rates:

(a) In all States of the United States, except Tennessee, North Carolina, South Carolina, Georgia, Alabama, Florida, Mississippi and Louisiana, the minimum rate of pay shall be not less than forty (40) cents per hour.

(b) In the States excepted in the above paragraph (a) the minimum rate of pay shall be not to exceed ten (10) cents per hour less than that prescribed for other States.

(c) The minimum rate of pay for learners shall not be less than eighty percent (80%) of the minimum wage provided herein, and the total number of such learners shall not exceed in any calendar month five (5) percent of the total factory employees of any employer, provided that no one shall be employed in the capacity of learner who has been employed within the industry for one year, whether by one or more employers.

(d) The minimum wage which shall be paid by any employer to office employees, except employees covered in Section 2, paragraph (e) of this Article II, shall not be less than at the rate of fifteen (15) dollars per week.

Office boys and girls shall be exempt from the foregoing provisions of this paragraph (d), provided they are paid at the rate of not less than eighty (80) percent of the minimum wage provided in this paragraph (d) for office employees, and provided that they shall not exceed in number more than one to every ten office employees.

(e) Old and partially disabled employees shall in no case be paid less than eighty (80) percent of the within minimum wage rates of pay, and provided that the total of such employees shall not exceed five (5) percent of the total number of employees employed by any employer.

SEC. 3. Maximum Hours.—No employee, except office employees, shall be employed in excess of forty (40) hours in any one week, or eight (8) hours in any twenty-four (24) hour period, except during any twelve (12) weeks in a twelve (12) months' period when em-

ployees may be employed not more than forty-eight (48) hours during any one (1) week, but such limitation shall not apply to:

(a) Employees engaged solely at maintenance and repair work and shipping crews, firemen, engineers, and electricians, as to whom there shall be a tolerance of ten (10) percent.

(b) Employees engaged in an executive or supervisory capacity receiving thirty-five (35) dollars or more per week, and outside salesmen.

(c) Watchmen, who may be employed not more than fifty-six (56) hours in any one wek.

(d) All employees, except office employees and except employees covered by Paragraphs (a) and (b) of this Section 3, who work more than eight (8) hours in any twenty-four (24) hour period, or more than forty (40) hours per week, shall be paid not less than one and one half times their normal pay for said ex-

Sec. 4. (a) Office employees shall not be employed for more than forty (40) hours in any one (1) week, nor eight (8) hours in any twenty-four (24) hour period, subject to the following exceptions:

(b) During any twelve (12) weeks of any twelve (12) months' period, such office employees may be employed for not more than forty-eight (48) hours in any one (1) week; provided, however, that the average of weekly hours of employment of any such employee over such twelve (12) months' period shall not exceed forty (40) hours per week.

Sec. 5. (a) This Article establishes minimum rates of pay, regardless of whether the employee is compensated on the basis of a time rate or on a piecework basis or otherwise.

(b) Equitable adjustment of compensation of employees receiving more than the minimum rates of pay herein prescribed shall be made by all employers, who have not heretofore made such adjustments, and all employers shall within ninety (90) days after the approval of this Code, report in full to the Code Authority concerning such adjustments whether made prior to or subsequent to such approval.

Sec. 6. Employers in the Industry shall not employ any minor under the age of sixteen (16) years, nor any person under the age of eighteen (18) in any hazardous foundry operations. The Code Authority shall submit to the Administrator within ninety (90) days after the approval of this Code a list of such operations.

Sec. 7. (a) No employer shall engage any employee for any time, which, when totaled with that already performed in the employ of another employer or employers, exceeds the maximum permitted herein; provided, that if any employee should be employed by more than one employer for an aggregate period in excess of such maximum without the

knowledge or connivance of any one of such employers, such employers shall not be deemed to have violated this para-

(b) An employer shall administer work in his charge so as to provide a maximum practicable continuity of employment for his personnel.

(c) An employer shall make payment of all wages due in lawful currency or by negotiable check, payable on demand. No deductions from such wages shall be made for pensions, insurance, or sick benefits, but employees may voluntarily make such payments.

(d) The employer shall accept no rebates, directly or indirectly on wages, nor give anything of value or extend favors to any person for the purpose of influencing rates of wages or working conditions of his employees.

(e) Within each State this Code shall not supersede any laws of such State which impose more stringent requirements on employers, regulating the age of employees, wages, hours of work, health, or general working conditions than under this Code.

ARTICLE III-RULES COVERING INDUSTRY

Section 1. Unfair Trade Practice Rules. To accomplish the purpose contemplated by the Act the following practices are hereby declared to be unfair methods of competition.

(a) Giving or promising to give to any purchaser, or prospective purchaser, of any product, or to any officer, employee, agent, or representative of any such purchaser or prospective purchaser in connection with any sale or prospective sale, any bribe, gratuity, gift, or other payment or remuneration, directly or indirectly.

(b) Paying or allowing to be paid to any purchaser in connection with the sale of any product, any rebate, commission, credit, discount, adjustment, or similar concession other than as specified in the price sheet of the member of the Industry published pursuant to Article III, Section 2.

(c) Disseminating, publishing, or circulating any false or misleading information relative to any product or price for any product, of any member of the Industry, or the credit standing or ability of any member of the Industry to perform any work or produce and product, or to the conditions of employment among the employees of any Member.

(d) Maliciously inducing or attempting to induce the breach of an existing oral or written contract between a competitor and his customer or source of supply, or interfering with or obstructing the performance of any such contractual duties or services.

(e) Making false representations or falsely marking or branding products of the Industry for the purpose or with the effect of misleading or deceiving purchasers.

(f) Stating in the invoice of any product, as the date thereof, a date later than the date of shipment of such product, or including in any invoice any product shipped on a date earlier than the date of such invoice for the purpose of evading the Code.

(g) Accepting orders for large quantities of products of the Industry, and then making small quantity deliveries at the large quantity price, for the purpose and with the effect of unjustly discriminating between different purchasers.

(h) Granting quantity discounts which have not been earned under the terms of the published price schedule.

(i) Making any allowances for advertising in any form to dealers or jobbers except pursuant to specific provision therefor in the member's price sheets, published pursuant to Section 2 of this Article III, so that such allowance is available to all customers in the same

(j) Making shipments to dealers on consignment, unless such terms are offered publicly on the duly published price list of the member of the Industry and are available to all dealers alike.

(k) Accepting orders from the classes of trade herein defined, not specified for immediate shipment, unless such orders shall be subject to the prices and terms in effect at the time shipment is made.

(1) Selling products of the Industry at a net realized price below the member's own individual cost; provided, however, that nothing herein contained shall prevent any member of the Industry from meeting the price of any competitor who is not himself selling below cost. For the purpose of determining cost, the Code Authority shall prepare and recommend to the Administrator a uniform system of cost accounting. Upon approval thereof by the Administrator, each member of the Industry shall immediately proceed to adopt such system of cost accounting in the determination of his own individual cost. If any member of the Industry should find it a hardship to adopt such cost accounting system, such member may appeal to the Code Authority, which shall have the power to permit such modifications or grant such exemptions as justice may require.

SEC. 2. Open Price Policy.—(a) An open price policy shall be maintained at all times by all members of the Industry and each member shall issue price lists applying to any products offered for sale to jobbers, dealers, heating contractors and/or installers, as herein defined. These price lists shall be dated, as of date of issue, and shall contain the then prevailing prices, discounts and terms of sale applying, as well as all other conditions of sale, and nothing in addition shall be allowed. Each member's price list shall remain in effect until such time as the member shall make any change in prices, terms, or any conditions of sale, in which event the member shall immediately issue a new price list and

send it to the Code Authority and to all members of the Industry, and to its jobbers, dealers, heating contractors and/or installers.

- (b) No member of the Industry shall make any sale of any product at a lower price or on terms or conditions more favorable than provided in his price lists, issued as aforesaid, nor extend to any purchaser prices or terms more favorable than to any other purchaser of the same trade class.
- (c) Many members of the Industry sell part of their products direct to dealers and/or heating contractor, and the balance of their products through jobbers. In order to prevent indirect evasion of the provisions of this Section 2 by such members, it is hereby provided that no such member shall sell any product to or through any jobber who is selling such product to any dealer and/or heating contractor at a lower price or on terms more favorable than the prices and terms provided in the price list of such member for sales by such member direct to dealers and/or heating contractors.
- (d) Nothing in this Code shall limit the effect of any adjudication by the courts or holding by the Federal Trade Commission on complaint, finding, and order, that any practice or method is unfair, provided that such adjudication or holding is not inconsistent with any provision of the Act or of this Code.

ARTICLE IV—ADMINISTRATION

Section 1. The Code Authority of the Industry. To cooperate with the Administrator in the administration of this Code, there shall be a Code Authority consisting of seven representatives of the Industry elected by a fair method of selection by the Industry, subject to review by the Administrator.

To effectuate further the policies of the National Industrial Recovery Act the Code Authority is hereby designated to cooperate with the Administrator as a planning and fair-practice agency for the Industry.

The President or the Administrator may appoint not more than three non-voting members of such Code Authority, without expense to the Industry. Said Code Authority shall, from time to time, present to the Administrator recommendations, based on conditions in the Industry as they may develop, which will tend to effectuate the operations of the provisions of this Code and the policy of the National Industrial Recovery Act.

Any act or decision of the Code Authority shall be subject to the right of the Administrator upon review to disapprove or modify such act or decision. In the event of omission by the Code Authority to act in any case in which action should be taken by it, anyone affected by such omission to act may appeal to the Administrator, who shall have power to take the necessary action.

The Code Authority shall, when re-

quested by the Administrator or his representative, cause to be obtained from the members of the Industry statistical data and information pertinent to the operation of this Code, in such form and manner as not to disclose the individual figures and data of the respective members of the Industry, that the Administrator shall require and as may be necessary to enforce and effectuate the provisions of this Code and the policy of the Act.

The Code Authority shall cause to be made available to the Administrator such reports, data, and information as may be required by the Administrator and which will assist in keeping the Administrator or any representative designated by him fully advised concerning such matters and confer with the Administrator or his representative from time to time to consider and study any recommendations presented by such persons on behalf of the National Recovery Administration or any member of the Industry regarding the operation, observance, and administration of this Code.

In addition to the information to be submitted to the Code Authorities, there shall be furnished to government agencies such statistical data as the Administrator may deem necessary for the purposes recited in Section 3 (a) of the Act.

The Code Authority may delegate any of its duties to such agencies as it may appoint, which would not involve the disclosure of the individual data or information of any member of the Industry, except as otherwise herein permitted or required to be disclosed, provided, that such agencies shall be under the supervision of the Code Authority.

SEC. 2. The Warm Air Furnace Manufacturers' Institute of Columbus, Ohio, is hereby constituted an agency to receive reports as herein above provided. The Institute shall provide for the receiving and holding of such reports in confidence. Such reports shall be in such form and shall be furnished at such intervals, as shall be prescribed by the Code Authority and shall contain such information relevant to the purposes of this Code as shall be prescribed by the Code Authority from time to time including information with respect to the following subjects:

- (a) Employment, hours, wages, and wage rates.
 - (b) Production and billing.
 - (c) Financial and cost data.
- (d) Activity, purchases, and sales.

Sec. 3. The Warm Air Furnace Manufacturers' Institute is organized to enable the Warm Air Furnace Manufacturing Industry to subscribe to the provisions of the Act, and places no inequitable restrictions on membership, which is open to all employers engaged in the Industry. There shall be no future amendments to "the Standard Code and By-Laws of the Warm Air Furnace Manufacturers' Institute" which will tend to make the Institute not truly

representative of and/or which shall impose any inequitable restrictions on membership.

ARTICLE V

Section 1. By assenting to this Code, the applicants shall not be deemed to have assented to any modification thereof.

SEC. 2. Amendments.—(a). Amendments to or revisions of this Code may be proposed by the Code Authority and when approved in accordance with the provisions of the Act shall become binding upon the Industry.

- (b) This Code and all the provisions thereof are expressly made subject to the right of the President of the United States, in accordance with the provision of Subsection (b) of Section 10, of the National Industrial Recovery Act, from time to time to cancel or modify any order, approval, license, rule, or regulation issued under Title I of said Act, and specifically, but without limitation, to the right of the President of the United States to cancel or modify his approval of this Code or any conditions imposed by him, upon his approval thereof.
- (c) Members of the Industry shall be entitled to participate in and share the benefits of the activities of the Code Authority and to participate in the selection of the members therof by assenting to and complying with the requirements of this Code and sustaining their reasonable share of the expenses of its administration. The reasonable share of the expenses of administration shall be determined by the Code Authority, subject to review by the Administrator, on the basis of volume of business and/or such other factors as may be deemed equitable to be taken into consideration.

SEC. 3. Provisions Against Monopoly.—None of the provisions of this Code shall be construed or applied in such a way as to promote a monopoly or monopolistic practices or to eliminate or oppress small enterprises or discriminate against them.

ARTICLE VI

Any violation of this Code shall render the violator liable to the penalties prescribed by Section 3 (f) of the Act, as follows:

"When a Code of Fair Competition has been approved or prescribed by the President under this title any violation of any provision thereof in any transaction in or affecting interstate or foreign commerce shall be a misdemeanor, and, upon conviction thereof, an offender shall be fined not more than five hundred (500) dollars for each offense, and each day such violation continues shall be deemed a separate offense."

ARTICLE VII-EFFECTIVE DATE

This Code shall become effective on the second Monday after the approval by the President of the United States,

AMERICAN ARTISAN

Air Conditioning Section

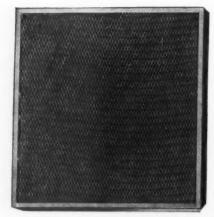
Devoted to the technical and merchandising problems of air conditioning in homes and small buildings

the public acclaim which has grown over-night, has, for the contractor, been a tedious development fraught with many disappointments and strewn with rejected ideas and abandoned formulas for easy, short-cut sales volume.

the maximum in air conditioning, has been unable to buy such systems. The contractor, willing but unable to sell maximum conditioning, has resorted to sales of partial conditioning and has found in this sales plan the key to this great new market.

- - - Contractors and engineers, working singly or in groups all over the country, have developed design by the slow, but certain, method of trial and error—rejecting this; bettering that; painstakingly advancing to certain accomplishments.

- - - No better illustration of this development need be painted than the picture indicated in the articles in this month's section—one article covering step-by-step design; another describing a test job.



HOLD-HEET AIR FILTERS

Excel because of improved coating material; self-supporting, welded steel frame—expanded metal sides—fibrous filler. In cartons, dealer's discount 50% off list below.

		Size																					Each
20	" X	20"	X	1	1/2	19	 												۰				\$1.50
16	" X	25"	X	1	1/2	,			,								٠			۰			1.50
20	" X	30"	X	1	1/2	,					*		*	,	*	*	ě.						2.25



HOLD-HEET Noiseless PRESSURE FAN 40% static pressure efficiency in desirable range, 22" patented fan. Blows air down (or horizontally). Ballentine Motor does not dim lights, 4,000 c.f.m. free air delivery.

No. F2216. Complete assembly as shown with 3-speed-changing pulleys.

\$21.35 \$21.35

Dealer's Price

The Next Great National Industry **Domestic Air Conditioning** Is Being Built Around HOLD-HEET Equipment

PRICE AND PERFÓRMANCE. Standard Units, all made in a single plant, all related and interlocking. The greatest sales opportunity of a generation-a unit at a time progressively or the complete job at once. This new equipment jumped to astonishing volume "over night" . . . sales have doubled each month—that's the public's response to practicable Air Conditioning that they can afford to buy.

Far ahead in both performance and price. Every unit, every part embodies fundamental design, construction and principle, advancements. veloped in the HOLD-HEET Laboratories . . . incorporate HOLD-HEET patents . . . completely built in the HOLD-HEET PLANT.

HOLD-HEET Fuel Blowers and Draft Boosters

These Fuel Blowers should pay for themselves in the first year, for they permit the use of cheap (buckwheat, etc.) coals of high heat content and low cost. They are the answer to many heating problems. No. 10D 10-inch, 115-volt Fuel Blower delivers 300 c.f.m. in free air; 250 at .2"S; 200 at .4"S; 150 at .6"S; 100 at .8"S. Develops 1" static pressure. Dealer's Price...........\$21.35

LOW VOLTAGE DRAFT BOOSTERS. It is cheaper to buy a draft booster than to rebuild a chimney. These are low pressure devices and are not suitable for forcing heavy beds of fine

No. PU4DP 4", 80 c.f.m. Draft Booster with special Transformer, Stack Switch, Room Thermostat and wiring accessories. For individual room heaters and water heaters, Dealer's Price. \$17.10

HOLD-HEET Humidity Valve, Humidistat, and Packages

Low voltage solenoid control, adjustable pressure disc flow regulator, pipe attachment clamp and visible drip fitting (removable for pressure use). No. U2V Humidity Valves. Dealer's Price...........\$4.80

No. U2H HOLD-HEET HUMIDISTAT. Low voltage, 2-wire, snap action type.
Dealer's Price

No. PUH Automatic Humidity Control Package with No. U2H Humidistat, No. U2V Valve, Transformer, Wires, 12 ft. of Copper Tubing. For use with pan on furnace radiator. Dealer's Price......\$10.75



HOLD-HEET Winter Air Conditioner

Complete at this price with: Noiseless Pressure Fan assembly (see description above), One Complete HOLD-HEET SYSTEM (see description) plus Control Box and Bonnet Switch, Four 20" x 30" Filters (see above)—all mounted in welded steel cabinet 28" x 30" x 58".

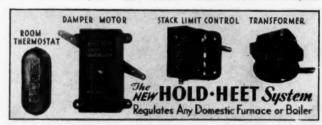
This Conditioner delivers

cabinet 28" x 30" x 58".

This Conditioner delivers up to 2100 c.f.m. through average furnace and filter system. Silent—fan vibration is below audio frequency; rotor floats in air—suspended from fan. Allows free gravity circulation.

Complete

Suggested installed (retail)



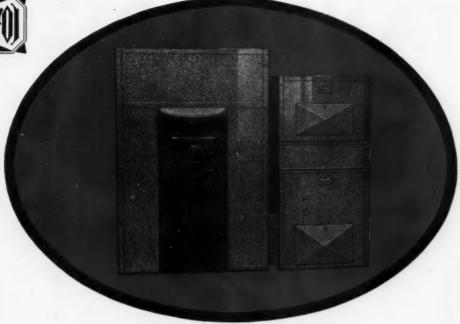
NOTICE: All Prices Quoted on This Page Are F. O. B. Factory WRITE TODAY. HOLD-HEET is making good everywhere. It offers your biggest money-making opportunity for 1934. Write for descriptive materials, data, prices on The Most Complete Line of Domestic Air Conditioning Controls and Accessories Built.

Be sure to give name of your preferred jobber of heating supplies

RUSSELL ELECTRIC COMPANY, Mfrs. 342 West Huron Street, CHICAGO, U. S. A.

Air Conditioning Section





WATERBURY meets today's demands -for a REAL oil-burning furnace -for Controlled Air Conditioning

Today's great opportunity in the home-heating field lies in filling the wide and growing demand for a warm air furnace made for burning OIL-a furnace that brings all the advantages of oil heating without the needless WASTE of fuel. The new Waterbury OIL Burning Furnace with the Waterbury COMFORTROL is the complete answer to the home owner's demands for automatic heating, greater fuel efficiency and the enjoyment of yearround Controlled Air Conditioning.

Step Out in Front with WATERBURY!

This new Waterbury model is a specially designed warm air furnace built to really get the utmost heat from any oil burner. It has a large combustion space, long fire travel and tremendous heating surface. It gives the lowest practical stack temperatures—and remarkable records in fuel economy. PERMANENTLY Oil-Tight. Seamless welded steel throughout-no cemented or cast iron joints. No odors-no fumes.

A REAL Oil-Burning Furnace WATERBURY COMFORTROL

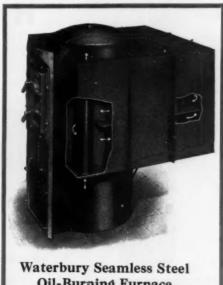
Controlled Comfort, complete air conditioning, is at its best with the new COMFORTROL, a compact unit that humidifies, washes, filters and distributes clean, pure warm air in ample quantity by forced circulation. Humidity is positively controlled as desired. Circulation may be varied for seasonal requirements.
COMFORTROL has many exclusive features for easy, positive regulation, quiet operation and efficient performance.

Since we announced this new equipment, home owners and dealers, everywhere are responding. Sell the equipment that is out in front meeting today's demands - and pays accordingly. Write us today for full information and our proposition.

WATERMAN - WATERBURY

1122 Jackson St. N. E.

Minneapolis, Minn.



Oil-Burning Furnace

STANDARDIZED CONTROLS

for Every Purpose



THE THERMOCHRON. Combines thermostatic action with timed boiler or furnace operation. Eliminates period of discomfort between time thermostat turns heat on and time heat is delivered. Maintains constant temperature within a fraction of a degree. Prevents "Cold 70°" or air stratification.



COMBINATION FURNACE CON-TROL, For warm air furnace. Adjustable to limit bonnet temperature and operate booster fan.



PROPORTIONING THERMOSTAT.

Modulating type. Controls modulating motored devices.

IMMEDIATE customer acceptance, advanced design, superior performance, and minimum service costs are the recognized features influencing leading manufacturers and dealers to standardize on Minneapolis-Honeywell Controls—year after year. They have found that quality controls cost less than service and know through actual experience the value of lasting quality and the resulting profits . . . If you are going through a period of costly experimentation, let us explain the many advantages of standardizing on Minneapolis-Honeywell Controls. There is a standardized control for every purpose ... one that has proved itself to be exactly fitted for the job intended . . . Minneapolis-Honeywell Regulator Co., 2726 Fourth Avenue South, Minneapolis, Minn. Branch and distributing offices in all principal cities.



Control Systems



AIR CONDITIONING FURNACE-STAT. Controls sequence of furnace, fan and humidifier operation as desired to meet individual requirements. For domestic use only.



AIRSWITCH. Room temperature control for applications such as unit heaters and other types of equipment where sensitivity is not as necessary as wide range of operation and sturdy construction.



HUMIDISTAT. Mercury switch type. Governs humidifying or de-humidifying functions.



MODUTROL MOTOR. Used in large or small air conditioning systems for modulated control of dampers, louvers and valves.



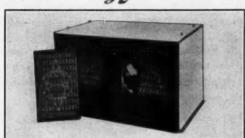
ELECTRIC JANITOR. Completely electric damper regulator for coal, or coke fired domestic heating plants.



THE COMPLETE LINE OF FORCED AIR HEATING EQUIPMENT

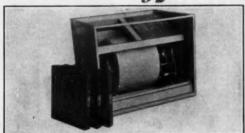
The dealer, wholesaler and furnace manufacturer, will find Air Controls the only complete line of forced air heating accessories.

Fan Type AIR PACKAGES



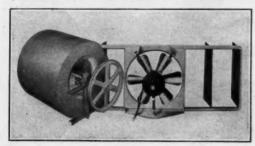
Furnace men can use the fan type AIR PACKAGES on existing heating systems which they have installed. It gives the owner of the well designed gravity system the advantages of Miles Automatic Furnace Fans with the red by-pass louvres, three speed control and over-sized filters. These are all enclosed in a compact neat casing with a removable access panel for top or back cold air inlet.

Blower Type AIR PACKAGES



The larger homes, garages, small public buildings and school houses provide an excellent market for the blower type AIR PACKAGES. Quietness, high capacity and compactness, coupled with the convenience of installation without disturbing the fire, make these units the leaders in the forced air heating field.

AND BLOWERS



The manufacturers of original equipment will find the newly designed line of fans and blowers best adapted for their specially built Air Conditioning Units





1960 W. 114th St.

Division of THE CLEVELAND HEATER CO. CLEVELAND, OHIO

Successor to THE WARM AIR FURNACE FAN CO. CONTROLS, TAKE, St., Constituted

Profit-Pointers-

- 1. Sell merchandise which will advertise itself favorably.
- 2. Show your customers a saving—and make a sale.

The two items on this page will advertise themselves because they will satisfy the user— They offer prospective buyers a substantial saving on coal bills.



More than fifty years experience in designing and building fans is behind this furnace fan. As a result, it is silent, efficient, sturdy and inexpensive. Provides positive delivery of a large volume of air, so necessary to overcome the back-pressure encountered in the usual hot air furnace or duct system.

Buffalo Furnace Fans are made in single, double and triple units—one, two or three fans on the same shaft—for stock shipment. Use them on all furnace and forced air heating, cooling and drying systems.



With an ACE Coal Burner and Thermostat you can show your prospects a saving of from \$4.00 to \$6.00 per ton as compared with furnace grades of hard coal! The thermostatically controlled ACE is installed to blow under the grate, permits burning the fine grades of hard coal such as buckwheat and rice. In addition to saving money—this arrangement provides the convenience and comfort of automatic temperature regulation.

Installation is simple, price complete with thermostat is very low. Fan has a high-grade, fool-proof motor, sturdy cast iron casing, high efficiency wheel. VERY quiet in operation.

DEALERS

Both the items illustrated here are substantial profit makers, carrying a good discount requiring little time to install, and practically no servicing. Furnace dealers have sold hundreds of each fan this fall and winter with universal satisfaction. Will be glad to supply you with advertising matter featuring your name. WRITE US TODAY.

Buffalo Forge Company

497 Broadway

Buffalo, N. Y.

In Canada: Canadian Blower & Forge Co., Ltd., Kitchener, Ont.



Step-by-Step— To Complete Air Conditioning

Some day, perhaps, the home owner wishing to buy an air conditioning system may call in or visit various local dealers in air conditioning apparatus and order a system for his house just as he now buys his motor car, radio or washing machine. Such a system will be delivered as a packaged unit—the correct size of furnace with synchronized fan, controls, heating element, cooling apparatus, so much pipe, so many elbows, all necessary fittings—sold and advertised as a unit for that particular sized house.

This condition, so the furnace man of today may feel, will be the millenium of the air conditioning business. In the meantime, however, this desirable condition lies in the future while the ever present problems of selling, designing and installing air conditioning equipment from the information available and the apparatus on the market must be met day by day.

To draw a broad conclusion, we may say that while the public wants air conditioning and the trend in design, manufacture and installation of air conditioning apparatus is pretty definitely headed toward the standardized unit, the fact remains that Mr. Jones wants complete air conditioning but can only afford a blower, filters and automatic control;

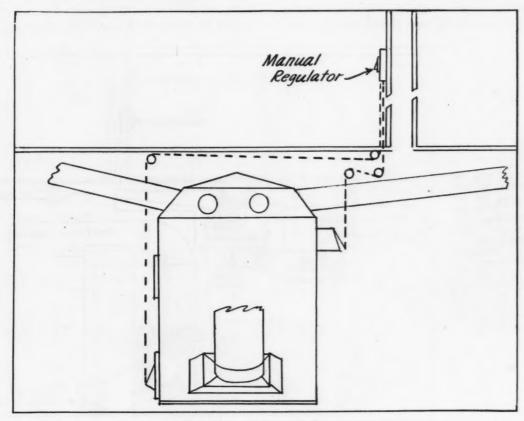
Mr. Brown wants automatic heat, but not cooling, and so on.

To meet these conditions of the present the air conditioning contractor must be able to satisfy both the desires and the ability to buy of the prospect as he finds him; must be able to explain what air conditioning actually is, how much it will cost, what certain degrees of conditioning will do and be ready to sell the prospect as much equipment as he can afford with the expectation of adding more equipment and more service later on.

This method of designing and selling we call the step-by-step program.

This step-by-step is exactly what it signifies. The contractor has for his resources his lines of furnaces, fans, blowers, humidifiers, controls, filters, washers, cooling equipment, automatic heat devices plus his design and engineering knowledge. To meet Mr. Jones' or Mr. Brown's particular requirements or ability to buy, certain units from these resources are selected and synchronized to provide a system which supplies certain air conditioning functions which may be added to at a later date.

This step-by-step method of selling air conditioning overcomes two serious problems. First, it



There are thousands of furnace installations like this. Such a system demands constant attention by the home owner and has little in common with heating progress.

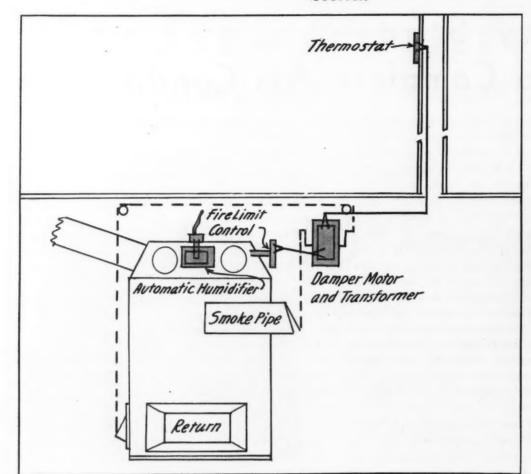


Fig. 1

As the first step to improving the "minimum" system we recommend an automatic humidifier to provide the proper degree of humidity and a room thermostat, a damper motor and a limit control to superintend the operation of the fire. The result is better interior conditions, less labor, less attention, less heating cost.

permits the contractor to sell as much equipment as the owner can afford to buy right now. Second, it lays the foundation for future additions as owner finances permit, at the same time giving definite improvements over the system already in use. Step-by-step conditioning has probably been responsible for more sales of conditioning apparatus and systems than any one other influence of the present market. By this plan we have been able to sell the small home owner humidifying, cleaning,

Fig. 2

As the second step, we give the owner positive air circulation by the application of a fan and constant cleaning with a filter section. This positive circulation requires one additional control instrument to start and stop the fan. As an additional comfort service, we install a humidity control instrument to keep our humidity constant.

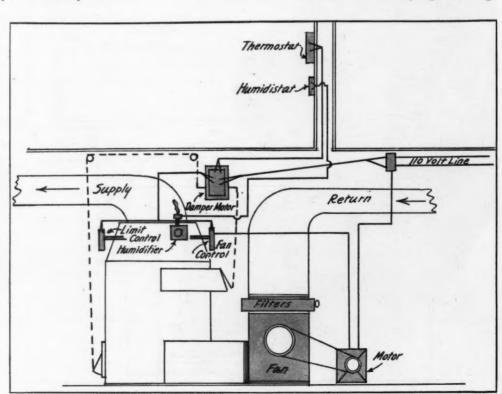
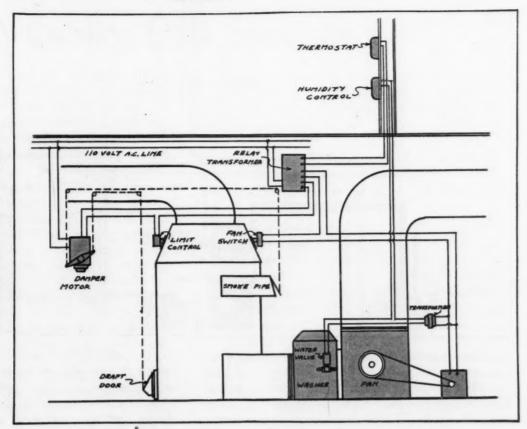


Fig. 3

Our third step introduces the domestic washer. With the washer we can clean and wash the air, give additional humidity, and provide that sense of healthful atmosphere which only washing can supply. Under suitable conditions this washer can also be used for cooling and dehumidifying. With this system the home owner has healthful air, positive circulation, constant control.



air circulation; the owner of the medium sized house, forced air, automatic control, automatic heat, cleaning; and the man with plenty of money all the equipment necessary to furnish air conditioning twenty-four hours a day, three hundred and sixty-five days a year.

Generally speaking, step-by-step selling follows pretty closely the addition of apparatus shown in the accompanying sketches. Several steps may be combined in one sale or combinations of the steps pictured may be adopted. Each addition improves the existing system and brings the owner closer to complete air conditioning.

Under present conditions the uppermost problems are those of selecting the right apparatus and so designing the system that this apparatus renders

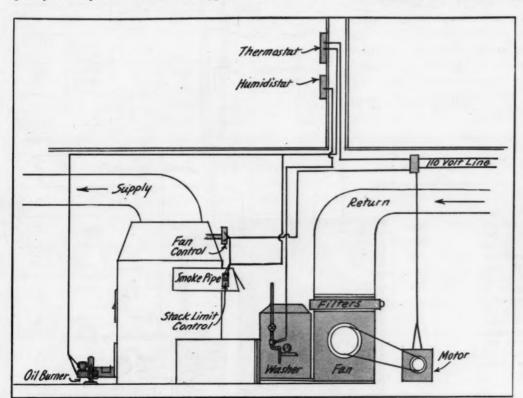


Fig. 4

As the fourth step, we eliminate firing by the addition of automatic heat with an oil burner, gas conversion burner or a stoker. The use of this piece of apparatus necessitates some changes in our control and operating cycles. With this fourth step we have given the owner as modern a heating system as he can buy and have built the system step by step.

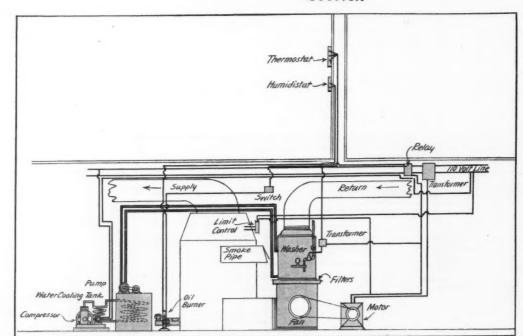


Fig. 5.

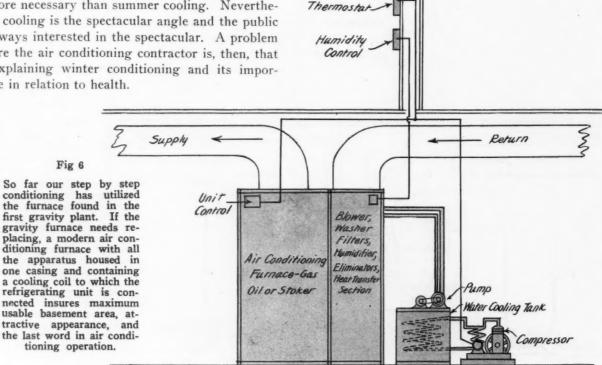
As the fifth step we en-ter the cooling field. To the automatic heating system of furnace, fan, washer, controls, auto-matic heating device, we add a unit which will insure cold water for cooling. This may be an ice chamber or a mechanical refrigerating unit. This water cooling mechanism may be connected to our washer or to a heat transfer unit.

maximum service equal to the owner's expectations.

This matter of owner expectation is serious. Most contractors have come to realize that while the public professes much interest in air conditioning and can ask innumerable questions indicating reading on the subject, this knowledge is superficial. Furthermore, up to now much of the interest in air conditioning has centered around summer cooling and in the public's mind no group of apparatus makes a conditioning system unless it cools in summer.

We, of course, know that winter conditioning, by reason of the longer season and greater need for healthful interior conditions in cold weather, is more necessary than summer cooling. Nevertheless, cooling is the spectacular angle and the public is always interested in the spectacular. A problem before the air conditioning contractor is, then, that of explaining winter conditioning and its importance in relation to health.

Undoubtedly one of the most effective ways of getting this story of winter conditioning firmly embedded in the prospect's mind is to explain just what functions are involved in any conditioning system and how and what apparatus gives each function. By this process cleaning and its related filters and washers; circulation with its fan or blower; humidity and its pan, spray, or washer; automatic operation with the necessary controls; heating with the furnace and perhaps some form of automatic heat can all be explained as functions making up air conditioning.



A Cooling Data Sheet [Part 1]

EGARDLESS of what cooling medium (water, ice, refrigeration) or what methods and apparatus are to be used for cooling, the contractor cannot proceed with confidence to design or calculate his cooling system without some standardized data sheet which eliminates all chances for

The data sheet shown with this article was devised for easy use and to insure that all conditions met with in the average residential or small shop cooling installation would be taken into account. In general design this data sheet follows pretty closely the customary form used in mechanical heating calculations with one section devoted to the general areas and cubages of the job and a second section devoted to the heat gain calculations which show at the end of the data sheet just how much cooling must be done for the conditions specified.

The data sheet has been filled in for a typical residence. Column 1 designates the proper rooms; column 2 gives room dimensions; column 3 multiplies these dimensions for room cubage; column 4 gives the square feet of glass area; column 5 the net wall area (total wall area less glass area); column 6 ceiling and floor area when these are under or over spaces not cooled; column 7 linear feet of cracks around doors and windows.

The second section of the data sheet is filled in

by calculating the heat load created by the heat introduced through the areas itemized in columns 2 to 7, inclusive. In order to make these calculations certain formulas are required. These formulas are given below the data sheet as foot notes a, b, c, d. Using these four formulas for calculating the entries, the heat losses are entered in their proper spaces and totalled across in column 12. Column 12 is then totalled at the bottom to give the total heat gain in B.t.u. per hour. This total B.tu. heat gain accounts for sensible heat only and to this total must be added the dehumidification load, which for regions like Urbana, Illinois, is taken as 25 per cent of the sensible heat load. We have, then 17,059 B.t.u. plus 25 per cent or 4,265 B.t.u. equals 21,324 B.t.u. per hour.

In order to make the calculations for the second section of the data sheet the coefficients for the glass, wall, ceiling, or roof must be known. Also, the temperature difference between the air outside the walls, windows, ceiling or roof and the air temperature to be maintained indoors must be determined. Note that this temperature difference for the calculations entered has been taken as 10 in all cases except the ceiling which is 25 because the residence entered on the data sheet has a copper roof and the temperature on the roof is as much as 165 degrees.

DATA SHEET FOR COOLING INSTALLATIONS

Floor		Room	Volume	Glass Area	Net Wall	Clá.andFl.	Linear Ft.	Heat	Gain in	B.t. u. F	-	
	Room	Dimen- Sions	Ft.	59. Ft.	Area 59. Ft.	Sq. Ft.	Window	Glass	Walls	Clg. Floor	Cracks	Total
1	Dining	13'-6" X 14'-0" X 8'-11"	1710	29.3	97	190	37.7	331	231	*	452	1014
/	B'K'F' Nook	-	954	11.3	41	50	18.5	128	98	*	198	424
/	Kitchen	10'-0" X 12'-0" X 8'-11"	1415	31.5	183	157	38.0	356	435	*	455	1246
/	Hall	8'-2" X 17'-0" X 8'-11"	1430	35.8	84	161	84.0	405	200	*	1010	1615
1	Living	13'-6" X 20'-0" X 8'-11"	2400	87.8	334	267	56.5	991	795	*	677	2463
2	S.W. Bed Room	12'-8" X 13'-6" X 8'-4"	1472	38.2	182	173	35.0	432	433	875	920	2/58
2	Bath	-	485	8.2	58	57	14.0	93	138	288	168	687
2	N.W. Bed	10'-0" X 15'-8" X 8'-4"	1533	38.2	277	180	26.3	432	660	908	316	23/6
2	Hall	8'-2" X 18'-0" X 8'-4"	1598	19.7	108 56	188	17.5	223	257	950	210	1711
2	East Bed	15'-6" X 20'-0" X 8'-4"	2270	63.7	334 25	267	43.8	720	795	1350	525	3425

aHeat gain for glass = Area of glass × Coefficient × Temp. diff. = 29.3 × 1.13 × 10 = 331 B.t.u. per hour. bHeat gain for walls = Area of Wall × Coefficient × Temp. diff. = 97 × 0.238 × 10 = 231 B.t.u. per hour. cHeat gain for ceiling = Area of ceiling × Coefficient × Temp. diff. = 173 × 0.202 × 25 = 873 B.t.u. per hour. dHeat gain due to window cracks = linear length of crack × Coefficient × Temp. diff. = 37.7 × 1.2 × 10 = 452 B.t.u. per hour.

*Heat gain not calculated as rooms are beneath cooled areas.

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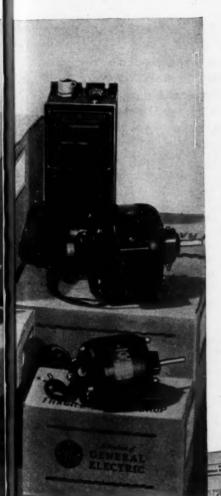
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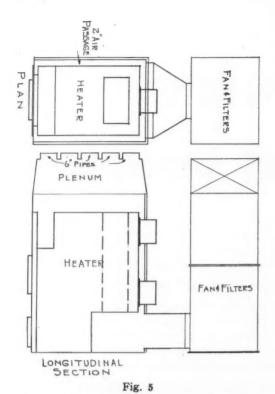
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070-



Plan and elevation of the furnace and fan. Note furnace type, tightness of casing, plenum and take-offs of the 6-inch round pipe leaders.

S TORIES and articles regarding test installations are usually incomplete in that the interesting problems of design as compared to results are generally left out. The writers may have tested scores of heating systems in every type of building, and when the major or minor adjustments were made the installation was declared a success. The "bugs" that had found their way into the system and multiplied were of course exterminated, but such extermination is not always easy. When the last nail is driven, the last bolt tightened and the fire started, the system may start to kick up its heels.

The following report and the accompanying plans are of a test installation that while giving some remarkable results, caused no little trouble until various changes were made. Part of these troubles were traced directly to the designer, in this case the writer, and a few more or less pet theories were filed for future reference. The results of the test did much damage to the idea that a theory or even a general practice will work out in the same manner on all jobs. In other words, any design or scheme which works well in house "A," should work equally well in house "B" is a fallacy.

Figs. 1, 2, 3 show the floor plans of the test house with the gravity system. Fig. 4 is the basement plan showing the mechanical system as installed.

Attention is called to the old gravity system. One would be safe to wager that this system as installed would incite the remark, "it does not look

Control, Draft, Firing and Design "Bugs" of Our Second Test Installation

By Platte Overton

bad." The furnace was a good average type, and the work was correctly and neatly done. The furnace was under the center of the house and all the warm air runs had good elevation. They were large enough and the returns were in good ratio to the supplies (Fig. 1). In fact, there seemed to be but one thing wrong with this gravity system. It didn't heat the house. It didn't even keep the plumbing from freezing within 3 feet of a warm air register. However, this is no postmortem of the former system. Our article deals with the "bugs" that developed in the new mechanical installation.

The new furnace is a square type of welded steel (see Fig. 5). The casings were designed with narrow air passages for a high velocity over the heated surfaces. The warm air runs are individual,

(Continued on page 56)

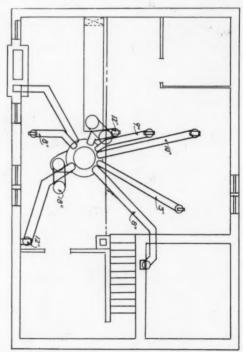


Fig. 1

This plan of the gravity system would pass the inspection of most contractors, but despite its apparent correctness it had one fault—it wouldn't heat. Leader pipe sizes are given.

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HERE are times in every man's life when it is good for him to look back at his past accomplishments or mistakes-and ahead into the future. Where are you headed? Toward just making a "living" all your life or toward an outstanding success?

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Because the Air Conditioning Industry has grown so rapidly, it is natural that a great many heating men still do not understand it thoroughly.

An Air Conditioning dealer must be thoroughly equipped with all information on the subject. He must know how to plan and design an installation. He must know what to suggest for every type of home or building. He must know how to sell air conditioning. He must know where to look for business, what to tell the prospect and how to close the order.

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Institute at no cost.

Type of building or business in which apparatus is located	Number of Installations (Retrigerator and Mater)	Total Tonnage	Tonnage of Smallest Job	Tonnage of Largest Job	of all Installations	of Total Tonnage	
Business Offices	28	1836	1	750	8.367	17.250	
Banks	7	741	1	300	2.184	6.965	
Churches	2	65	-	65	.624	.6//	
Civic Bldg's.	2	50	-	50	.624	.470	
Clubs	4	202	2	125	1.248	1.898	
Dance Halls	6	325	-	225	1.872	3.055	
Stores (Larger than Shops)	12	883	1	350	3.774	8.300	
Hospitals	.2	27	2	25	.684	.253	
Hotels	19	1700	1/2	500	5.928	15.980	
Industrial Applications(Candy)	26	1796	3	400	8.//2	16.880	
" " (Bakery)	/8	173	4	25	5.6 / 6	1.626	
" " (Printing)	15	770	10	500	4.680	7.258	
" (Miscellaneous)	10	332	1	175	3./ 20	3./20	
Private Offices	54	91	发	7%	16.8 48	.855	
Residences	18	21	/	3	5.616	./97	
Restaurants	63	1283	3	100	18.656	12.060	
Shops (Including Department) of Large Store	19	144	/	75	5.928	1.350	
Miscelaneous	20	8/8	1	45	4.8/0	3.637	
Sub-Total	325	11,257	-		100.00	100.00	
Theatres	18 (Refrgerated) 22 (Washed Air)	7,6 02	18	400			
Total	395	18,859	-	_	_	_	

A Survey of Air Conditioning Sales

THERE has been much speculation by contractors and the air conditioning industry in general as to just what acceptance air conditioning has received—particularly summer cooling and complete conditioning.

Many claims have been made and because these claims are difficult to prove the contractor has been forced to present his acceptance sales story in very general terms and to base his statements of acceptance in his area on personal information and hearsay.

In the city of Chicago a survey covering all types of air conditioning apparatus by types of installations and sizes of equipment was concluded late last year by the Commonwealth Edison Company under the supervision of G. A. Freeman, manager of the air conditioning department. The results of this survey are shown in the accompanying chart which gives in tabulated form the total number of installations operating in Chicago, the total cooling tonnage, the tonnage of the smallest and largest installation by class.

To this information we have added a percentage breakdown showing in column 6 the percentage of the number of installations by class to the total number of installations and in column 7 the percentage of tonnage of each class to the total tonnage in use in the city.

There is much valuable information in this

chart. First of all, it gives the first authentic information on the amount of conditioning and cooling sold and installed to date in this important area. Second, it gives a breakdown of types of installations, showing what classes of businesses or building have accepted the most units. Third, the chart shows the size and class of installation, also the range in sizes for each class of installation.

Fourth, and of importance to the domestic installer, the chart shows that residential installations account for more than $5\frac{1}{2}$ per cent of the total number of installations in the city, shows the range in sizes in residences and indicates that small tonnage equipment is being sold.

From this chart the domestic contractor can readily see that businesses such as theaters and restaurants are using the largest number of units and have used the largest types of equipment. Another interesting feature is the number of installations made to smaller business houses like shops, dance halls, stores, etc., a class of business which very logically will go to the domestic installer.

While it is probably not safe to say that this chart will be duplicated in any other area of like population or sales makeup due to the fact that concentrated efforts have been made in Chicago to sell cooling and conditioning, we may take this chart as indicating the classes of establishments which have accepted conditioning.

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Air type thermostat for low or high voltage Air type thermostat for low or high voltage applications. Furnished standard as a low voltage temperature control designed to operate with the Mercoid Transformer-Relay. It will however, directly handle 25 watts or less on 110 or 220 volts without the use of a relay. Used for controlling automatic heating equipment for homes, unit heaters for factories, incubators, etc. It is extremely sensitive, accurate and dependable in operation. Dual Sensatherms available for day and night temperature regulation, also for heating and cooling operations.

TRANSFORMER-RELAY



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A reliable low voltage mercury contact relay, which also acts as a transformer, thus eliminating the necessity of an externally connected low voltage transformer. Its unique construction does away with the hum and chatter common with clapper type relays. It meets the severe service conditions encountered with automatic heating and refrigeration equipment and has numerous other applications. Available for 110 or 220 volts, 60, 50 or 25 cycle. Can also be furnished as a repulsion-relay for 110 or 220 volts D. C.

LIMIT CONTROL



Type M-51 Mercoid Limit Control should be used on all warm air furnaces having automatic heating equipment, to insure protection against extreme overheating of the furnace. This instrument has an adjustable range from 50 to 650° F. and can be quickly set to open the circuit on a rising temperature at any point within this range. The adjustable flange permits the mounting of this control on any furnace hood.

FAN CONTROL



Type M-53 Control is similar in construction to Type M-51. It is the ideal control for all types of blower or booster fan applications. It may be applied on any warm air furnace where coal, oil or gas is used for fuel. This instrument operates the fan economically, and prevents blowing cold air into the room if the furnace is not hot enough to deliver heat. Troublesome jobs can be corrected and rooms remote from the furnace can be adequately heated by means of forced circulation.

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Illustrating No. 324-B Barber Automatic Burner in-stalled in a round boiler. Note its simplicity of installation and the excellent scrubbing action of the flame.





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Illustrating a Special Barber Automatic Gas Burner made of 4 No. U-25 Bar-ber Units installed in a Sectional Boiler. Barber Burner units are especially adaptable for building such assemblies.



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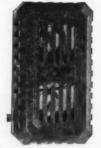


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of relative humidity and temperature. A Bake-lite case of graceful design and silvered dials results in a very attractive and useful in-strument. Placed in one of your prospects' home, will sell itself and demonstrate the need of an air conditioning system.



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Second Test House

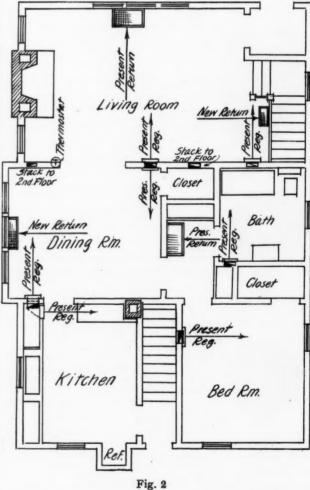
(Continued from page 52)

some stacks requiring two leaders. The fan is of the blower type with 1/4 H. P. motor. The capacity is 1,200 c. f. m. at 600 R. P. M. against 1/8" S. P.

Two new cold air returns were installed as shown in Fig. 2. The controls were of the most modern type, with the fan controlled through the thermostat. There was a limit and safety control and the damper motor.

As the draft doors seemed fairly tight, and the body of the heater was welded and air tight throughout, the check draft was eliminated-mistake No. 1. A double casing was constructed with a black iron liner, without insulation-mistake No. 2. The first test was made with wood as fuel-mistake No. 3. It was assumed that the owner knew how to fire a furnace-mistake No. 4. The owner was assured that the system was fully automatic, that all he had to do was to put in coal and take out ashes-mistakes 5-6-7, etc.

The first trouble developed in trying to coordiate the action of the selected control system with



All the old registers and returns were used. In addition, two new returns were added as shown. Again note that the general distribution of air of the old system seemed very good. This is the first floor plan of the system as it is during the tests.

Air Conditioning Section

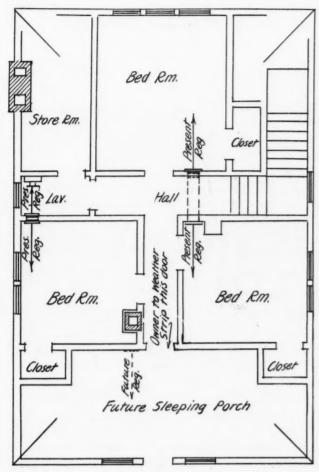


Fig. 3

This is the arrangement of registers on the second floor.

There are no returns.

the high velocities, small air passages of the furnace and exceedingly rapid heat pickup in the casing. The control system first installed consisted of a room thermostat and a combination fan, limit and safety control located in the bonnet. In operation, when the room thermostat called for heat the fan came on when the bonnet temperature reached the fan "on" setting. If the furnace supplied heat as rapidly as the fan removed heated air the fan continued to run until the room thermostat was satisfied when the whole system shut down. This is similar to control system number three described in American Artisan automatic control series.

As the fan was thus controlled through the room thermostat as well as the fan settings of the bonnet control, the fan shut off when the room thermostat was satisfied. The heat generation was so rapid that the bonnet temperature rose to the safety setting of the fan, starting the blower. It was found that this "on" starting of the fan from the safety setting and the "off" of the room thermostat resulted in fan operations of from 3 to 7 second intervals and of 3 to 5 second duration. This seemed to indicate that the furnace as cased and fired was capable of raising the bonnet temperature several degrees per second.

There was absolutely no control over the fire



Type 122

(TWO POSITION)

Though simple in construction, the Type 122 Master Heat Regulator is a precision instrument in every sense of the word. Slight temperature variations turn on or shut off the heat, assuring comfort and satisfaction at all times. Reasonably priced for the average homeowner.

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The Master Heat Regulators pletured represent the culmination of eighteen years' experience developing and perfecting precision temperature control devices. In these years of service Master Heat Regulators, in thousands of installations, have been proven absolutely reliable in operation. Features which distinguish Master Heat Regulators include: Powerful, quiet motor; non-inductive starting switch; platinum iridium contacts; extremely sensitive thermostatic elements; negligible current in the thermostaticicuit. Detailed information gladly sent upon request.

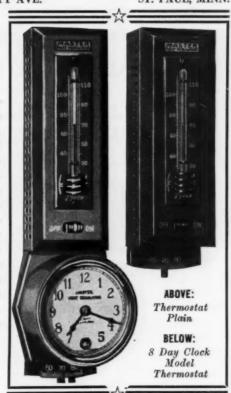
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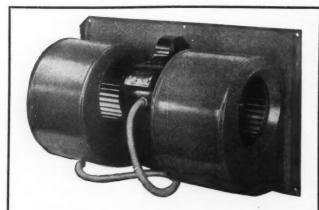
Type 144

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This Master Heat Regulator employs a step by step method of control by which the heating plant provides more uniform, comfortable heat, while utilizing substantially less fuel. Responds unfailingly to the slightest fluctuations in temperature.







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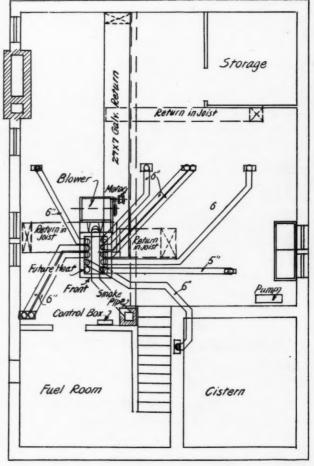


Fig. 4

This is the forced air system—all 6-inch round pipe leaders, 4 returns, and the chimney which had too much draft. Note the arrangement of take-offs at the bonnet and the runs of pipe to the boots.

when the owner fired with wood, even though the draft was closed tight. The bonnet combination control was moved to several locations on the casing and finally placed in a warm air run five feet from the bonnet. No change in operation was noted.

The fan speed was reduced as it was assumed that the temperature variation in the bonnet would be less per time unit. Reducing the air volume 20% prolonged the fan service about 2 to 5 seconds—not satisfactory.

A check draft was installed and coal used exclusively as fuel. This change helped during the day, but for the morning firing-up period with from 5 to 10 degrees temperature rise in the house necessary, the fire would get under way and the battle between the thermostat and safety was on.

The next consideration was the time element in the closing of the draft and the opening of the check. As this heater seemed to respond almost instantaneously to any volume of draft, and the draft was high when the wind blew, the long action damper motor was removed and a quick action unit installed.

It was found that the first motor required from

3 to 5 minutes for full action of the dampers, and with a high wind and no check the fire was beyond control before the draft damper closed.

A "butter-fly" draft damper was installed in the smoke pipe and set for a draft of 0.14 inches of water.

The combination bonnet stat, safety, and limit control was removed and a simple bonnet control operating the fan by bonnet heat only was substituted. No great over ride in room temperature has been observed in tests to date.

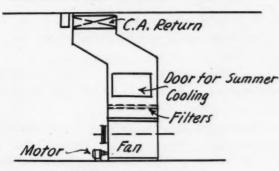
It must not be assumed that these conditions were studied and corrected in minutes; or hours. It took days and nights. As the owner complained of a hot house over night with no control, an over night test was conducted and some very surprising results recorded.

Overnight Test

The fire was banked at 11 p. m. with 20 pounds of coal, about 75% slack. There had been no action of the fan or dampers since 7 p. m. The outside temperature was 28 degrees with a high wind. The inside temperature was 70 degrees.

The thermostat was set back to 65 degrees. All the dampers in the warm air runs were full open with all runs heating on gravity. There are seven rooms and bath in this house with various halls. vestibules and lavatories. There are nine 6-inch runs none less than 10 feet long. Each have 2 or more elbows.

From 7:00 p. m. to 6:30 a. m. there was no action of the dampers or fan. The temperature in the house dropped 4 degrees in this length of time, in direct ratio to the 4 degree drop outside to 24



ELEVATION FROM REAR

The general arrangement of blower, filters, cold air return and door for taking basement air in summer is shown.

degrees at 6:30 a. m. The house temperature did not show any decline until 3:00 a. m.

At 6:30 a. m. the thermostat was advanced to 74 degrees and the dampers opened. The banked fire bed was broken up, but no fuel was added. The fan started to operate at 6:50 a. m. and ran in 30 to 60 second intervals. The room temperature was

COOK CONTROLS

THERMOSTATS - Low Voltage - Magnetic Type Accurate to 1° F. Differential 2° F. Indicated adjustable range 55° to 85° F. Electric rating is 25 volts, 75 watts.

12-A2—2-wire with thermometer.

12-B2—2-wire no thermometer.

12-B3—3-wire no thermometer.

DAMPER CONTROL

Automatic firing clutch—absolutely safe—closes draft door in event of current failure. Quiet in operation. Requires no lubrication—No service. No. 12 complete with 12-A2 Thermostat, Control Unit, Transformer, and Kit.

CONTROL SYSTEMS

For warm air furnaces equipped with blowers with or without washers— using hard fuel, oil, gas or stoker.

Low voltage, fully automatic winter and summer. All wiring done to a central control panel, simple equip-ment. Easy installation—assured re-

FURNACE SWITCHES

Furnace switches for warm air furnaces, low

voltage:
15-5 High Fire Limit Switch.
Adjustable 100° to 350° F.
15-7 Blower Control Switch.
Adjustable 100° to 300° F.
15-8 Combines 15-6 and 15-7, plus
Extra safety switch that closes blower circuit regardless of thermostat at 450° F.

ZONE CONTROL

Thermostatic control for two or more apartments or sones from a single furnace.

Catalog on request

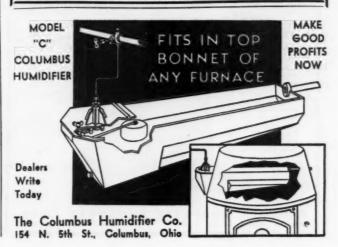
COOK ELECTRIC COMPANY 2710 SOUTHPORT AVE., CHICAGO



long way toward building good will for you and your business; they also provide you with an additional profit on every installation. Liberal discounts to dealers on quantity lots. Setting punches for use in installing SOUND - STOPPERS furnished at small cost or gratis with quantity orders. Learn more about this remarkable device and how it can help you. Write today for the im-

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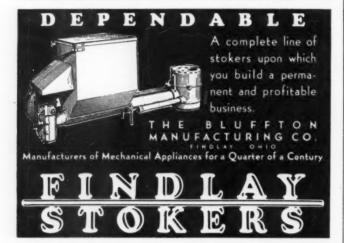


Universal Scientific Humidifier

New Models—32" and 48" Pans—1" wider—25% more evaporating surface. Rustless—Made of Copper, Brass and Aluminum. Simple—Dependable—Guaranteed. Adjustable to any type Bonnet.

We also make UNIVERSAL AUTO-MATIC WATER PAN FILLERS. Our prices will interest you.

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CLARM

HUMID-A-STAT
AND WATERSTAT
BETTER HUMIDIFIERS

CORROSION PROOF

A Cold Valve Operating Inside a Water Sealed Air Chamber, Does the Trick

CLARM MECHANICAL DEVICES CO.
410-12 South Elizabeth St. Lima, Ohio



70 degrees at 7:15 but the drafts remained open and did not close until 8:30 when the thermostat at 74 degrees was satisfied. As the fire was well under way when the drafts closed, the fan continued to run in short cycles and the house temperature rose to 75 degrees. The fan cut off at 9:30 and did not operate again until 2 p. m.

No fuel was added until 2:00 p. m. or a 15-hour firing period.

A rough survey showed that for an average differential of 42 degrees between inside and outside temperature the B.t.u. loss for 15 hours was 480,000. The coal as fired was 22 pounds with a total of 660,000 B.t.u. or an overall efficiency of 73%—firing with 75% slack—heating an average 7 room house with 12,000 cubic feet capacity—on gravity 12 hours out of the 15—through nine-6" warm air ducts.

Remember that the returns on this system are all flat runs and between joists. The air must pass through the filters, through two 9-inch openings in the fan, through the wheel and into the furnace through a 12 by 12-inch opening.

Preliminary Conclusions

The following paragraphs are not conclusive. They may be termed "Portrait of an engineer talking to himself, or thinking out loud."

The air passages over this heater are too small—but the gravity service is highly efficient.

The bonnet control, drafts and control system should be set to increase the service of the fan—but why?

The design of the heater, casings and the system in general is ahead of the present information on control systems—but remember this is an "unusual" job.

The check draft can not be eliminated—but there was none on the last test run and the system works exceptionally well.

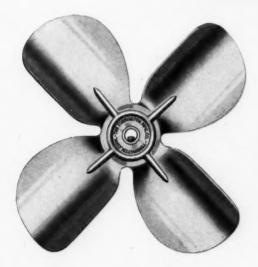
Equipment and design must be synchronized and seemingly there is a limit beyond which the designer cannot go with casing tightness, velocities and control cycles.

This system heats 7 rooms or more on gravity with nine 6-inch runs but it didn't heat with two 12, two-10 and three 8-inch pipes.

The owner claims the basement over heats, but there are 875 square feet of floor space to heat and the efficiency is high.

No weather colder than zero has been recorded so far, but tests will be taken for volume of air, inlet temperatures, humidity, service, etc., and published in a future issue of the American Artisan.

TORRINGTON FANS AND BLOWER WHEELS





For 32 years Torrington has supplied propeller fans to the country's most representative manufacturers of products requiring fans. Tools for a wide variety of styles in sizes from 5 in. to 16 in. diameter, both one piece and spider types.

Balanced all-aluminum Centrifugal fans, unexcelled for quietness, smooth operation and minimum power. Patented design reduces cost. Single and double wheels 3 in. to 15 in. diameter. Send for Bulletin.

You incur no obligation by submitting your fan problems to us. Our laboratory facilities are at your service for the study of special fan applications.

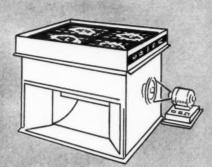
The Torrington Mfg. Co. Torrington - Conn, U.S.A. 14 Franklin St.

Air Conditioning Section

Dustop filters installed in mechanical blower.



Joist installation of Dustop filters.







Dustop filter boot installed in section of the return air duct.

Many ways to install

DUSTOP — but the results

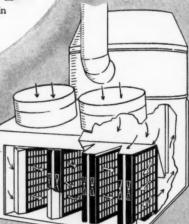
are the same

Clean heat and profit for you

Clean heat-with a warm air furnace-strikes a responsive note in the heart of every housewife. She is certain to be vitally interested in any way to eliminate the drudgery of constant cleaning and the menace of dust to family health. That's how the Dustop glass-wool air filter gets your sales and profits started, giving you an annual replacement profit as new filters are substituted for dirty ones... Dustop offers complete filter service, high cleaning

efficiency, low resistance to air flow, large dust-holding capacity-all at a low cost that will promote immediate business for you. Dustop installations can be readily fitted, as illustrations show, to every type of warm air furnace system. Push Dustop, and profit by this most attractive merchandising proposition. Write for details. Owens-Illinois Glass Company, Toledo, O. (Dustop is assembled and installed in Can. by General Steel Wares, Ltd., Toronto.)







OWENS-ILLINOIS

Warm air furnace equipped with standard Dustop filter casing.

American Artisan 1934 DIRECTORY

Section 1.—Products Classified

Section 2.—Trade Names

Section 3.—Manufacturers' Addresses

HOW TO USE THIS DIRECTORY

If you want to know the names of one or more manufacturers making a certain product, look in Section 1, where that product will appear in its proper place in the listing. If you have the trade name of a product and want to know who manufactures it, look in Section 2, where trade names are alphabetically listed. For the complete name and address of any manufacturer look in Section 3.

American Artisan

1934 DIRECTORY NUMBER

Section 1-PRODUCTS CLASSIFIED



See Controls, Heating, Ventilating and Air Conditioning

AIR CONDITIONING FURNACES

(Self-contained Furnace-fan-filter-humidifier unit) See Furnaces, Air Conditioning

AIR CONDITIONING UNITS

(Self-contained fan-filter-washer-humidifier unit for warm air furnaces)

Allweather Conditioning Co., Trenton, N. J.
American Foundry & Furnace Co., Bloomington, Ill.
American Furnace Co., St. Louis, Mo.
Bedard Manufacturing Co., Minneapolis, Minn.
Brundage Co., Kalamazoo, Mich.
Columbus Humidifier Co., Columbus, O.
Forest City Foundries Co., Cleveland, O.
Gehri & Co., A., Tacoma, Wash.
Hoersting & Holtmann Co., Dayton, O.
Holland Furnace Co., Holland, Mich.
Jaden Mfg. Co., Inc., F., Hastings, Nebr.
Lakeside Co., Hermansville, Mich.
Lau Heating Service, Inc., Dayton, O.
Liberty Foundry Co., St. Louis, Mo.
Majestic Co., Huntington, Ind.
Meyer Furnace Co., Peoria, Ill.
Miles Furnace Fan Division of Henry Furnace & Foundry
Co., Cleveland, O.
Mueller Furnace Co., L. J., Milwaukee, Wis.
Peerless Electric Co., Warren, O.
Premier Warm Air Heater Co., Dowagiac, Mich.
Reynolds Corp., Chicago, Ill.
Robinson Furnace Co., Chicago, Ill.
Robinson Furnace Co., Chicago, Ill.
Scott-Newcomb, Inc., St. Louis, Mo.
Thatcher Co., Newark, N. J.
U. S. Air Conditioning Corp., Minneapolis, Minn.
Waterman-Walerbury Co., Minneapolis, Minn.
Waterman-Walerbury Co., Minneapolis, Minn.
Watt Mfg. Co., Sterling, Ill.
Wood Hydraulic Hoist & Body Co., Detroit, Mich. Allweather Conditioning Co., Trenton, N. J.

AIR CONDITIONING UNITS

(Self-contained fan-washer-filter-heat transfer surface unit for connection to steam or hot water, refrigeration)

connection to steam or hot water, refrigeration)

Air Conditioning Engineering Co., Cambridge, Mass. Air Conditioning Equipment Corp., Milwaukee, Wis. Air Conditioning Equipment Corp., Milwaukee, Wis. Air Conditioning Equipment Corp., Minneapolis, Minn. Air Conditioning Industries, Inc., New York City. Allweather Conditioning Co., Trenton, N. J. American Blower Corp., Detroit, Mich. American Furnace Co., St. Louis, Mo. Baldwin-Southwark Corp., Philadelphia, Pa. Betz Unit Air Cooler Co., Kansas City, Mo. Bishop & Babcock Sales Co., Cleveland, O. Bryant Heater Co., Cleveland, O. Bryant Heater Co., Cleveland, O. Buffalo Forge Co., Buffalo, N. Y. Carrier Engineering Corp., Newark, N. J. Clarage Fan Co., Kalamazoo, Mich. Dunham Co., C. A., Chicago, Ill. Fairbanks, Morse & Co., Chicago, Ill. Forest City Foundries Co., Chicago, Ill. Forest City Foundries Co., Cleveland, O. Frigidaire Corp., Dayton, O. General Electric Co., New York City. Grinnell Company, Inc., Providence, R. I. Heetrozone Co., Minneapolis, Minn. Hill Co., E. Vernon, Chicago, Ill. Kelvinator Sales Corp., Detroit, Mich. King Ventilating Co., Owatonna, Minn. Koons Engineering Co., Danville, Ill.

Lewis Air Conditioners, Inc., Minneapolis, Minn.
McCormick & Co., J. H., Williamsport, Pa.
May Oil Burner Corp., Baltimore, Md.
Nelson Corp., Herman, Moline, Ill.
Nesbitt, Inc., John J., Philadelphia, Pa.
Niagara Blower Co., New York City.
Parco Furnace Division of Philadelphia & Reading Coal &
Iron Co., Philadelphia, Pa.
Parks-Cramer Co., Fitchburg, Mass.
Security Stove & Mfg. Co., Kansas City, Mo.
Servel Sales, Inc., Evansville, Ind.
Somers, Inc., H. J., Detroit, Mich.
Stilphen Engineering & Mfg. Co., C. A., Denver, Colo.
Sturtevant Co., La Crosse, Wis.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Williams Oil-O-Matic Heating Corp., Bloomington, Ill.
York Ice Machinery Corp., York, Pa.
Young Radiator Co., Racine, Wis.

AIR CONDITIONING UNITS, ROOM TYPE

(Cabinet or suspended fan-filter-cooling-humidifier unit)

American Blower Corp., Detroit, Mich.
Baldwin-Southwark Corp., Philadelphia, Pa.
Campbell Metal Window Corp., Division of Amer. Rad. & Std.
San. Corp., New York City.
Carrier Products Corp., Newark, N. J.
Fairbanks, Morse & Co., Chicago, Ill.
Frantz-Carroll Systems, Cleveland, O.
Frigidaire Corp., Dayton, O.
General Electric Co., New York City.
Grinnell Co., Inc., Providence, R. I.
Humidi-Cooler Corp., West Haven, Conn.
Ilg Electric Ventilating Co., Chicago, Ill.
McCormick & Co., J. H., Williamsport, Pa.
Servel Sales, Inc., Evansville, Ind.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
Trane Co., La Crosse, Wis.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

AIR DUCT DIFFUSERS

See Diffusers, Air Duct

AIR FILTER AND BLOWER COMBINATIONS

See Blower and Air Filter Combinations
AIR FILTERS

See Filters, Air

AIR WASHER AND BLOWER COMBINATIONS

See Blower and Air Washer Combinations

AIR WASHERS

See Washers, Air

ALLOY SHEETS

See Sheets, Alloy

ALUMINUM NAILS

See Nails, Aluminum

ALUMINUM PAINT

See Paint. Aluminum

ALUMINUM PIPE

See Pipe, Aluminum

ALUMINUM PLATES See Plates, Aluminum

ALUMINUM RIVETS

See Rivets, Aluminum

ALUMINUM ROOFING

See Roofing, Aluminum

ALUMINUM SHEETS

See Sheets, Aluminum

ANCHOR BOLTS

See Bolts, Toggle and Anchor

ANGLES, BARS, BEAMS, CHANNELS AND TEES (STRUCTURAL SHAPES)

Aluminum Co. of America, Pittsburgh, Pa.
American Brass Co., Waterbury, Conn.
Bethlehem Steel Co., Bethlehem, Pa.
Byers Co., A. M., Pittsburgh, Pa.
Carnegie Steel Co., Pittsburgh, Pa.
Chase Brass & Copper Co., Waterbury, Conn.
Columbia Steel Co., San Francisco, Cal.
Inland Steel Co., Chicago, Ill.
International Nickel Co., Inc., New York City (Monel).
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Laclede Steel Co., St. Louis, Mo.
Mesker & Co., Geo. L., Evansville, Ind.
Newman Brothers, Inc., Cincinnati, O.
Northfield Iron Co., Northfield, Minn.
Reading Iron Co., Philadelphia, Pa.
Revere Copper & Brass, Inc., New York City.
Truscon Steel Co., Youngstown, O.
Youngstown Sheet & Tube Co., Youngstown, O.

ANGLES, FURNACE PIPE

See Pipe, Furnace, Fittings and Accessories

ANGLES

See Angles, Bars, Beams, Channels and Tees (Structural Shapes)

ARC WELDERS

See Welders, Electric

ARC WELDING ELECTRODES

See Electrodes, Arc Welding

ASBESTOS CEMENT

See Cement, Asbestos and Magnesia

ASBESTOS-CEMENT ROOFING

See Roofing, Asbestos-Cement, Corrugated

ASBESTOS-CEMENT SHINGLES

See Shingles, Asbestos-Cement

ASBESTOS PAINT

See Paint, Asbestos

ASBESTOS PAPER

See Paper, Asbestos

ASH PIT DOORS

See Doors, Ash Pit

ASPHALT SHINGLES

See Shingles, Asphalt

AUTOMATIC COAL BURNERS

See Stokers

AUXILIARY FURNACES, GAS

See Furnaces, Warm Air, Gas Auxiliary

BARS

See Angles, Bars, Beams, Channels and Tees (Structural Shapes)

BEAMS

See Angles, Bars, Beams, Channels and Tees (Structural Shapes)

BEARINGS, FAN

Dodge Mfg. Corp., Mishawaka, Ind. Fafnir Bearing Co., New Britain, Conn. Grand Rapids Die & Tool Co., Grand Rapids, Mich. New Departure Mfg. Co., Bristol, Conn. Randall Graphite Products Corp., Chicago, Ill.

BEER DISPENSING EQUIPMENT

Sce Faucets, Beer; Insulation, Beer Cooler; Metals, Perforated, Sheet and Plate: Pipe, Aluminum; Pipe, Block Tin; Pumps, Beer

BEER FAUCETS

See Faucets. Beer

BEER PUMPS

See Pumps, Beer

BENCH PUNCHES

See Punches, Bench

BENCH SHEARS

See Snips and Shears, Bench and Hand

BLAST GATES

Airtherm Mfg. Co., St. Louis, Mo.
Brundage Co., Kalamazoo, Mich.
Clarage Fan Co., Kalamazoo, Mich.
Falstrom Co., Passaic, N. J.
Garden City Fan Co., Chicago, Ill.
Goethel Co., Alfred C., Milwaukee, Wis.
Grand Rapids Blow Pipe & Dust Arrester Co., Grand Rapids, Mich. ake Erie Engineering Corp., Buffalo, N. Y. Niagara Blower Co., New York City.
R-S Products Corp., Philadelphia, Pa.
Western Blower Co., Seattle, Wash.
Young & Bertke Co., Cincinnati, O.

BLOCK TIN PIPE

See Pipe, Block Tin

BLOW PIPE EQUIPMENT

See Blast Gates; Collectors, Blow Pipe; Fittings, Blow Pipe; Hoods and Sweeps, Blow Pipe; Joints, Blow Pipe

BLOW PIPE FITTINGS

(Elbows, Flanges, Hangers, Joints, Rings, Tubing)
See Fittings, Blow Pipe

BLOW TORCHES

See Torches, Blow

BLOWER AND AIR FILTER COMBINATIONS

Air Controls, Inc., Cleveland, O.
American Blower Corp., Detroit, Mich.
American Foundry & Furnace Co., Bloomington, Ill.
Ames Co., W. R., San Francisco, Cal.
Autovent Fan & Blower Co., Chicago, Ill.
Bishop & Babcock Sales Co., Cleveland, O.
Brundage Co., Kalamazoo, Mich.
Bryant Corp., C. L., Cleveland, O.
Buffalo Forge Co., Buffalo, N. Y.
Campbell Heating Co., Des Moines, Ia.
Chandler Co., Cedar Rapids, Ia.
Clarage Fan Co., Kalamazoo, Mich.
Coppus Engineering Corp., Worcester, Mass.
Dowagiac Steel Furnace Co., Dowagiac, Mich.
Economy Baler Co., Ann Arbor, Mich.
Garden City Fan Co., Chicago, Ill.
Gehri & Co., A., Tacoma, Wash.
Grand Rapids Die & Tool Co., Grand Rapids, Mich.
Green Foundry & Furnace Works, Des Moines, Ia.
Henry Furnace & Foundry Co., Cleveland, O.
Hess Warming & Ventilating Co., Chicago, Ill.
Ilg Electric Ventilating Co., Chicago, Ill.
Jaden Mfg. Co., Inc., F., Hastings, Nebr.
Lakeside Company, Hermansville, Mich.
Lau Heating Service, Inc., Dayton, O.
Lennox Furnace Co., Marshalltown, Ia.
Liberty Foundry Co., St. Louis, Mo.
MaGirl Foundry & Furnace Works, P. H., Bloomington, Ill.
Majestic Co., Huntington, Ind.
Meyer Furnace Fan Division of Henry Furnace & Fdry. Co., MaGirl Foundry & Furnace Works, P. H., Bloomington, Ill.
Majestic Co., Huntington, Ind.
Meyer Furnace Co., Peoria, Ill.
Miles Furnace Fan Division of Henry Furnace & Fdry. Co.,
Cleveland, O.
Montag Stove & Furnace Works, Portland, Ore.
Mueller Furnace Co., L. J., Milwaukee, Wis.
Nelson Corp., Herman, Moline, Ill.
Nesbitt, Inc., John J., Philadelphia, Pa.
Niagara Blower Co., New York City.
Peerless Electric Co., Warren, Q.
Peerless Foundry Co., Inc., Indianapolis, Ind.
Pennsylvania Furnace & Iron Co., Warren, Pa.
Premier Warm Air Heater Co., Dowagiac, Mich.
Reynolds Corp., Chicago, Ill.
Rock Island Stove Co., Rock Island, Ill.
Rudy Furnace Co., Dowagiac, Mich.
Russell Electric Co., Chicago, Ill.
St. Louis Heating Co., St. Louis, Mo.
Security Stove & Mfg. Co., Kansas City, Mo.
Stilphen Engineering & Mfg. Co., C. A., Denver, Colo.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
Thatcher Co., Newark, N. J.
Trane Co., La Crosse, Wis.
U. S. Air Conditioning Corp., Minneapolis, Minn.
Waterman-Waterbury Co., Minneapolis, Minn.

BLOWER AND AIR WASHER COMBINATIONS

Air Conditioning Equipment Corp., Minneapolis, Minn. American Blower Corp., Detroit, Mich. American Foundry & Furnace Co., Bloomington, Ill. Ames Co., W. R., San Francisco, Cal. Autovent Fan & Blower Co., Chicago, Ill.

Bayley Blower Co., Milwaukee, Wis.
Betz Unit Air Cooler Co., Kansas City, Mo.
Brundage Co., Kalamazoo, Mich.
Buffalo Forge Co., Buffalo, N. Y.
Campbell Heating Co., Des Moines, Ia.
Clarage Fan Co., Kalamazoo, Mich.
Dail Steel Products Co., Lansing, Mich.
Dowagiac Steel Furnace Co., Dowagiac, Mich.
Economy Baler Co., Ann Arbor, Mich.
Electrovent Fan & Mfg. Co., Chicago, Ill.
Emerson Elec. Mfg. Co., St. Louis, Mo.
Gehri & Co., A., Tacoma, Wash.
Green Foundry & Furnace Works, Des Moines, Ia.
Henry Furnace & Foundry Co., Cleveland, O.
Hess Warming & Ventilating Co., Chicago, Ill.
Hoersting & Holtmann Co., Dayton, O.
Ilg Electric Ventilating Co., Chicago, Ill.
King Ventilating Co., Owatonna, Minn.
Lakeside Co., Hermansville, Mich.
Lau Heating Service, Inc., Dayton, O.
Lennox Furnace Co., Marshalltown, Ia.
Marshall Furnace Co., Marshall, Mich.
Meyer Furnace Co., Peoria, Ill.
Montag Stove & Furnace Works, Portland, Ore.
Mueller Furnace Co., L. J., Milawukee, Wis.
Niagara Blower Co., New York City.
Peerless Electric Co., Warren, O.
Premier Warm Air Heater Co., Dowagiac, Mich.
Reynolds Corp., Chicago, Ill.
Rudy Furnace Co., Dowagiac, Mich.
Stilphen Engineering & Mfg. Co., C. A., Denver, Colo.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
Thatcher Co., Newark, N. J.
Typhoon Air Conditioning Corp., Minneapolis, Minn.
Waterman-Waterbury Co., Minneapolis, Minn.
Watt Mfg. Co., Sterling, Ill.

BLOWERS, EXHAUST AND VENTILATING

BLOWERS, EXHAUST AND VENTILATING

American Blower Corp., Detroit, Mich.

American Foundry & Furnace Co., Bloomington, Ill.

Ames Co., W. R., San Francisco, Cal.

Autovent Fan & Blower Co., Chicago, Ill.

Bayley Blower Co., Milwaukee, Wis.

Bishop & Babcock Sales Co., Cleveland, O.

Buffalo Forge Co., Buffalo, N. Y.

Campbell Companies, E. K., Kansas City, Mo.

Campbell Heating Co., Des Moines, Ia.

Champion Blower & Forge Co., Lancaster, Pa.

Clarage Fan Co., Kalamazoo, Mich.

De Bothezat Impeller Co., Inc., New York City.

Diehl Mfg. Co., Elizabethport, N. J.

Electrovent Fan & Mfg. Co., Chicago, Ill.

Garden City Fan Co., Chicago, Ill.

Gehri & Co., A., Tacoma, Wash.

General Blower Co., Vineland, N. J.

Goethel Co., Alfred C., Milwaukee, Wis.

Grand Rapids Die & Tool Co., Grand Rapids, Mich.

Hartzell Propeller Fan Co., Piqua, O.

Ilg Electric Ventilating Co., Chicago, Ill.

International Engineering, Inc., Dayton, O.

King Ventilating Co., Owatonna, Minn.

Kirk & Blum Mfg. Co., Cincinnati, O.

Lakeside Co., Hermansville, Mich.

New York Blower Co., New York City.

Stilphen Engineering & Mfg. Co., C. A., Denver, Colo.

Sturtevant Co., B. F., Hyde Park, Boston, Mass.

Typhoon Air Conditioning Corp., Minneapolis, Minn.

Universal Blower Co., Birmingham, Mich.

Western Blower Co., Birmingham, Mich.

Western Blower Co., Seattle, Wash.

Wing Mfg. Co., L. J., New York City.

BLOWERS, FORCED DRAFT

American Blower Corp., Detroit, Mich.
Buffalo Forge Co., Buffalo, N. Y.
Doyle Machine & Tool Corp., Syracuse, N. Y.
Electrovent Fan & Mfg. Co., Chicago, Ill.
Miles Furnace Fan Division of Henry Furnace & Foundry
Co., Cleveland, O.
Niagara Blower Co., New York City.
Ottinger, Walter J., Cleveland, O.
Peerless Electric Co., Warren, O.
Russell Electric Co., Chicago, Ill.
Smith Mfg. Co., Inc., F. A., Rochester, N. Y.
Wing Mfg. Co., L. J., New York City.

BLOWERS, FURNACE, CENTRIFUGAL

Air Conditioning Equipment Corp., Minneapolis, Minn. Air Controls, Inc., Cleveland, O. Aladdin Heating Corp., Oakland, Calif. American Blower Corp., Detroit, Mich. American Foundry & Furnace Co., Bloomington, Ill. American Furnace Co., St. Louis, Mo.

ARTISAN

Ames Co., W. R., San Francisco, Cal.
Autovent Fan & Blower Co., Chicago, Ill.
Bayley Blower Co., Milwaukee, Wis.
Bishop & Babcock Sales Co., Cleveland, O.
Brundage Co., Kalamazoo, Mich.
Buffalo Forge Co., Buffalo, N. Y.
Campbell Companies, E. K., Kanasa City, Mo.
Campbell Heating Co., Des Moines, Ia.
Champion Blower & Forge Co., Lancaster, Pa.
Clincinnati Sheet Metal & Roofing Co., Cincinnati, O.
Clarage Fan Co., Kalamazoo, Mich.
Dowagiac Steel Furnace Co., Dowagiac, Mich.
Dowagiac Steel Furnace Co., Dowagiac, Mich.
Economy Baler Co., Ann Arbor, Mich.
Electrovent Fan & Mfg. Co., Chicago, Ill.
Emerson Electric Mfg. Co., St. Louls, Mo.
Excelsior Stove & Mfg. Co., Quincy, Ill.
Floral City Heater Co., Monroe, Mich.
Garden City Fan Co., Chicago, Ill.
Gehri & Co., A., Tacoma, Wash.
General Blower Co., Vineland, N. J.
Grand Rapids Die & Tool Co., Grand Rapids, Mich.
Green Foundry & Furnace Works, Des Moines, Ia.
Harold Furnace Mfg. Co., Spokane, Wash.
Henry Furnace & Foundry Co., Cleveland, O.
Hess Warming & Ventlating Co., Chicago, Ill.
Ilg Electric Ventilating Co., Chicago, Ill.
Jaden Mfg. Co., Inc., F., Hastings, Nebr.
Johnston Mfg. Co., Minneapolis, Minn.
Kaup Airovane Corp, Seattle, Wash.
Lakeside Co., Hermansville, Mich.
Lau Heating Service, Inc., Dayton, O.
Lennox Furnace Co., Marshalltown, Ia.
McPherson Furnace & Supply Co., Portland, Ore.
Mahr Mfg. Co., Minneapolis, Minn.
MaGril Foundry & Furnace Works, P. H., Bloomington. Ill.
Majestic Co., Huntington, Ind.
Marshall Furnace Co., Peoria, Ill.
Miles Furnace Fan Division of Henry Furnace & Fdry. Co.,
Cleveland, O.
Montag Stove & Furnace Works, Portland, Ore.
Mueller Furnace Co., Chicago, Ill.
Peerless Foundry Co., Inc., Indianapolis, Ind.
Premier Warm Air Heater Co., Dowagiac, Mich.
Reudy Furnace Co., Chicago, Ill.
Security Stove & Mfg. Co., Kansas City, Mo.
Spencer Turbine Co., Hartford, Conn.
Stilphen Engineering & Mfg. Co., C. A., Denver, Colo.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
U. S. Air Conditioning Corp., Minneapolis, Minn.
U. S. Pre

BOILER HANDLES See Handles, Boiler

BOILER PLATE FOR TANKS, ETC.

See Plates, Boiler, for Tanks, Etc.

BOLTS, ANCHOR

See Bolts, Toggle and Anchor

BOLTS, EXPANSION

Diamond Expansion Bolt Co., Garwood, N. J. National Lead Co., New York City. Rawlplug Co., Inc., New York City. Star Expansion Bolt Co., New York City. United Screw & Bolt Corp., Cleveland, O.

BOLTS, MONEL METAL

International Nickel Co., Inc., New York City.

BOLTS, STOVE

Aluminum Co. of America, Pittsburgh, Pa.
Atlas Bolt & Screw Co., Cleveland, O.
Bardes Range & Foundry Co., E. H., Cincinnati, O.
Clark Bros. Co., Milldale, Conn.
Continental Screw Co., New Bedford, Mass.
Corbin Screw Corp., New Britain, Conn.
Excelsior Stove & Mfg. Co., Quincy, Ill.
Lamson & Sessions Co., Cleveland, O.
National Screw & Mfg. Co., Cleveland, O.
Republic Steel Corp., Youngstown, O.
Townsend Co., New Brighton, Pa.
United Screw & Bolt Corp., Cleveland, O.

BOLTS, TOGGLE AND ANCHOR

Diamond Expansion Bolt Co., Garwood, N. J.
Lamson & Sessions Co., Cleveland, O.
National Screw & Mfg. Co., Cleveland, O.
Rawlplug Co., Inc., New York City.
Star Expansion Bolt Co., New York City.
United Screw & Bolt Corp., Cleveland, O.

BOOSTER FANS

See Fans, Booster

BOOTS, FURNACE PIPE

See Pipe, Furnace, Fittings and Accessories

BRACKETS AND JACKS, LADDER

Ajax Building Bracket Co., Cleveland Heights, O.
All States Roofers Equipment & Material Co., Chicago, Ill.
Healy-Ruff Co., St. Paul, Minn.
Ridgely Trimmer Co., Springfield, O.
Southbridge Roofing Co., Inc., Southbridge, Mass.
Tilley Ladders Co., Inc., J. S., Watervliet, N. Y.
United Screw & Bolt Corp., Cleveland, O.

BRAKES, METAL WORKERS'

Allsteel Press Co., Chicago, Ill.
Cincinnati Shaper Co., Cincinnati, O.
Dreis & Krump Mfg. Co., Chicago, Ill.
Farrel-Birmingham Co., Inc., Ansonia, Conn.
Niagara Machine & Tool Works, Buffalo, N. Y.
Ohl & Co., Geo. A., Newark, N. J.
Peck, Stow & Wilcox Co., Southington, Conn.
Steelweld Machinery Co., Cleveland, O.
Whitney Metal Tool Co., Rockford, Ill.

See Rivets, Brass, Copper and Iron

BRAZING TORCHES

See Torches, Brazing

BRUSHES, ACID

Cleveland Acid Swab Co., Lakewood, O. Henlopen Mfg. Co., Inc., Lewis, Del. Milwaukee Brush Mfg. Co., Milwaukee, Wis. Osborn Mfg. Co., Cleveland, O. Potomac Mfg. Co., Philadelphia, Pa. Schaefer Brush Mfg. Co., Milwaukee, Wis.

BRUSHES, FURNACE

Dayton Casting Co., Dayton, O.
Mill-Rose Co., Cleveland, O.
Milwaukee Brush Mfg. Co., Milwaukee, Wis.
Osborn Mfg. Co., Cleveland, O.
Pilley Packing & Flue Brush Mfg. Co., St. Louis, Mo.
Ridgely Trimmer Co., Springfield, O.
Schaefer Brush Mfg. Co., Milwaukee, Wis.
Standard Furnace & Supply Co., Omaha, Nebr.
Worcester Brush & Scraper Co., Worcester, Mass.

BUILDINGS, METAL

Biersach & Niedermeyer Co., Milwaukee, Wis. Columbian Steel Tank Co., Kansas City, Mo. Edwards Mfg. Co., Inc., Cincinnatl, O. International Steel Co., Evansville, Ind. Jones & Larson Corp., Maspeth, Long Island, N. Y. Lamneck Products, Inc., Columbus, O. Maryland Metal Building Co., Baltimore, Md. St. Paul Corrugating Co., St. Paul, Minn. Southwestern Mfg. & Supply Co., Phoenix, Ariz. Thomas & Armstrong Co., London, O. Truscon Steel Co., Youngstown, O.

BUILT-UP ROOFING

See Roofing, Built-Up

BURNER, OIL, ACCESSORIES

A-C Spark Plug Co., Flint, Mich. (Electrodes).
Alco Valve Co., Inc., St. Louis, Mo. (Valves).
Allis-Chalmers Mfg. Co., Milwaukee, Wis. (Transformers).
Anchor Post Fence Co., Baltimore, Md. (Drain and Shut-Off Valves).
Apthorp, R. E., Everett, Mass. (Gages, Nozzles).
Balloffett Diamond Wire Dies Co., Inc., New York City (Atomizing Nozzles).
Boston Auto Gage Co., Pittsfield, Mass. (Liquid Level Gages).
Bousman Mfg. Co., Inc., Grand Rapids, Mich. (Oil Filters).
Brown Instrument Co., Philadelphia, Pa. (Liquid Level Gages).

Brown Instrument Co., Philadelphia, Pa. (Liquid Level Gages).
Central Brass Mfg. Co., Cleveland, O. (Strainers).
Champion Blower & Forge Co., Lancaster, Pa. (Rotors).
Champion Spark Plug Co., Toledo, O. (Spark Plugs).
Columbian Steel Tank Co., Kansas City, Mo. (Tanks).
Consolidated Ashcroft Hancock Co., Bridgeport, Conn.
(Anti-Siphoning Devices, Strainers).
Cook Electric Co., Chicago, Ill. (Anti-Flooding and Anti-Siphoning Devices, Gages, Pumps, Transformers).
Detroit Lubricator Co., Detroit, Mich. (Anti-Siphoning Devices, Gages, Strainers, Valves).
Dongan Electric Mfg. Co., Detroit, Mich. (Transformers).

General Electric Co., Schenectady, N. Y. (Motors, Trans-

General Electric Co., Schenectady, N. Y. (Motors, Transformers).

Huffman Mfg. Co., Dayton, O. (Tank Fittings).

Imperial Brass Mfg. Co., Chicago, Ill. (Copper Tube Couplings, Regulators, Strainers, Trip Valves).

Janette Mfg. Co., Chicago, Ill. (Oil Pumps).

Jefferson Electric Co., Bellwood, Ill. (Ignition and Control Transformers, Fuses).

Kraissl Co., Inc., Hackensack, N. J. (Pumps).

Leiman Bros., Newark, N. J. (Shut-Off Valves, Strainers).

Liquidometer Corp., Long Island City, N. Y. (Tank Gages).

Lynn Products Co., Lynn, Mass. (Control Valves).

Mahr Mfg. Co., Minneapolis, Minn. (Shut-Off Valves).

Mercoid Corp., Chicago, Ill. (Switches).

Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

(Valves, Shut-Off and Regulating).

Moline Gauge Works, Moline, Ill. (Liquid Level Gages).

Mcnarch Mfg. Works, Inc., Philadelphia, Pa. (Nozzles, Strainers, Regulating Valves).

Morrison Bros. Co., Dubuque, Ia. (Foot Valves, Strainers).

National Steam Pump Co., Upper Sandusky, O. (Pumps).

Northern Pump Co., Minneapolis, Minn. (Pumps).

Nugent & Co., Wm. W., Chicago, Ill. (Filters, Needle Valves, Pumps).

Pumps).

Penn Electric Switch Co., Des Moines, Ia. (Transformers, Relays).

Petrometer Corp., Long Island City, N. Y. (Gages).

Pneumercator Co., Inc., New York City. (Gages).

Ray Burner Co., San Francisco, Cal. (Anti-Siphoning Devices)

Ray Burner Co., San Francisco, Cal. (Anti-Siphoning Devices).
Rochester Mfg. Co., Inc., Rochester, N. Y. (Gages).
Rock & Rook, East Palestine, O. (Blectric Ignition).
Rotary Mfg. Co., Los Angeles, Cal. (Oil Traps).
Scott-Newcomb, Inc., St. Louis, Mo. (Filters, Pumps).
Stat-Amatic Instrument & Appliance Co., Hartford, Conn. (Transformers & Relays).
Teesdale Mfg. Co., Grand Rapids, Mich. (Oil Pumps, Check Valves, Fuel Gages).
Tuthill Pump Co., Chicago, Ill. (Pumps).
United Tool & Die Co., Inc., Hartford, Conn. (Shells, Top Covers, Generator Covers, Fittings).
Viking Pump Co. of Delaware, Cedar Falls, Ia. (Pumps, Tank Gages).

Tank Gages).

Wagner Electric Corp., St. Louis, Mo. (Transformers).

Warren Electric Appliance Co., Warren, Pa. (Oil Preheaters).

Webster Electric Co., Racine, Wis. (Pumps, Strainers, Transformers, Valves).

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Westinghouse Electric & Mig. Co., East Pittsburgh, Ta. (Transformers).
Wilson Mfg. Co., Denver, Colo. (Nozzles).
York Oil Burner Co., Inc., York, Pa. (Air Cushions, Cut-Off Valves, Needle Valves, Non-Siphoning Valves, Preheaters, Pressure Regulating Valves).

BURNERS, GAS, CONVERSION

BURNERS, GAS, CONVERSION

American Gas Products Corp., New York City.
Barber Gas Burner Co., Cleveland, O.
Beck Engineering Combustion Kompany, St. Louis, Mo.
Bryant Corp., C. L., Cleveland, O.
Bryant Heater Co., Cleveland, O.
Bryant Heater Co., Toledo, O.
Continental Stove Corp., Ironton, O.
Franklin Gas Appliance Co., Cincinnati, O.
Franklin Gas Appliance Co., Cedar Rapids, Ia.
Leahy Mfg. Co., Los Angeles, Cal.
Morey & Jones, Ltd., Los Angeles, Cal.
Parker Co., Inc., C. W., Omaha, Nebr.
R-S Products Corp., Philadelphia, Pa.
Robbins & Myers, Inc., Springfield, O.
Roberts Gordon Appliance Corp., Buffalo, N. Y.
Rotary Mfg. Co., Los Angeles, Cal.
Security Stove & Mfg. Co., Kansas City, Mo.
Sonner Burner Co., Winfield, Kan.
Stahdard Heating & Radiator Co., Pittsburgh, Pa.
Surface Combustion Corp., Toledo, O.
Twentieth Century Heating & Ventilating Co., Akron, O.
York Oil Burner Co., Inc., York, Pa.

BURNERS, OIL

Advance Oil Burner Co., Hartford, Conn.
Alasco Burner Co., Inc., Winchendon, Mass.
Anchor Post Fence Co., Baltimore, Md. (Rotary type).
Automatic Burner Corp., Chicago, Ill. (Rotary type).
Ballard, Inc., Arthur H., Boston, Mass.
Beatrice Steel Tank Mfg. Co., Beatrice, Nebr.
Berryman Oil Burner Co., Chicago, Ill.
Bethlehem Foundry & Machine Co., Bethlehem, Pa. (Guntype). type).

Bethlehem Steel Co., Bethlehem, Pa.

Boston Machine Works Co., Lynn, Mass. (Gun type).

Braden Engineering Corp., Providence, R. I.

Brown Oil Burning Equipment Co., Cambridge, Mass. (Gun and Rotary types).

Bryan Steam Corp., Peru, Ind. (Rotary type).

Bunsen Oil Burner Corp., Hartford, Conn.

Butler Mfg. Co., Kansas City, Mo.

California Oil Burner Co., Kansas City, Mo. (Gravity type.)

Cary Mfg. Co., Waupaca, Wis.

Century Engineering Corp., Cedar Rapids, Ia. (Gun type). Chalmers Oil Burner Co., Minneapolis, Minn. (Gun type). Cleveland Steel Products Corp., Cleveland, O. Combustion Oil Burner Co., Milwaukee, Wis. (Gun type). Delco Appliance Corp., Rochester, N. Y. (Gun type). Double Duty Oil Burner Co., Inc., Rock Island, Ill. (Gun Double Duty Oil Burner Co., Inc., Rock Island, Ill. (Gun type).

Duncan Oil Burner Co., Iowa City, Ia. (Gun type).

Easternoil, Inc., Portland, Me. (Gun type).

Eisler Electric Corp., Newark, N. J.

Electrol Inc., New York City. (Gun type).

Enterprise Oil Burner Co., San Francisco, Cal.

Excello Oil Heating Corp., Omaha, Nebr.

Fairfield Oil Heating Co., Inc., Greenwich, Conn.

Fano-Flame Oil Burner Co., Huntington Park, Cal.

Florence Stove Co., Gardner, Mass. (Gravity type).

French Rotary Oil Burner Co., Sebastopol, Cal.

General Electric Co., Schenectady, N. Y.

Gilbert & Barker Mfg. Co., West Springfield, Mass. (Gun type). Gilbert & Barker Mfg. Co., West Springfield, Mass. (Guntype).

Granite Slate Oll Burners, Manchester, N. H. Grinnell Washing Machine Corp., Grinnell, Ia.

Hart Oil Burner Corp., Peoria, Ill.

Harvey-Whipple, Inc., Springfield, Mass.

Herco Oil Burner Co., Lancaster, Pa. (Guntype).

Hipoint Corp., Bellefontaine, O.

Home Necessities Mfg. Co., Chicago, Ill.

Ingle Mfg. Co., San Diego, Cal. (Gravity type).

Industrial Combustion Corp., Buffalo, N. Y.

Iowa Foundry Co., Sioux City, Ia.

Johnson Co., S. T., Oakland, Cal. (Rotary type).

Johnston Mfg. Co., Minneapolis, Minn. (Gun type).

Kais Oil Burner, Mfr., Detroit, Mich. (Rotary type).

Kelvinator Sales Corp., Detroit, Mich. (Rotary type).

Kleen Heet, Inc., Chicago, Ill. (Rotary, Gravity and Guntypes). Kleen Heet, Inc., Chicago, Ill. (Rotary, Gravity types).
Laco Oil Burner Co., Griswold, Ia.
Leahy Mfg. Co., Los Angeles, Cal.
Leiman Bros., Inc., Newark, N. J.
Little Burner Co., Inc., H. C., San Rafael, Cal.
Lynn Products Co., Lynn, Mass. (Gravity type).
McIlvaine Burner Corp., Chicago, Ill.
Mahan Oil Burner Co., Chicago, Ill.
Malleable Iron Fittings Co., Branford, Conn.
Mallow Oil Heating Co., Madison, Wis.
Marvel Oil Burner Co., Barre, Vt.
May Oil Burner Corp., Baltimore, Md. (Gun type).
Montag Stove & Furnace Works, Portland, Ore.
Morey & Jones, Ltd., Los Angeles, Cal.
Morrissey & Co., Chicago, Ill.
New England Oil Burner Co., Barre, Vt. (Gun ty.)
New England Oil Burner Co., Barre, Vt. (Gun ty.)
New England Oil Burner Co., Watertown, Mass.
type). (Gun type). (Gun type) (Gravity New England Oll Burner Co., Watertown, Mass. (Gravity type).

Nu-Way Corp., Rock Island, Ill.
Oil-American Burner Corp., Roselle Park, N. J. (Rotary and Gun types).
Oil Burner Builders, Rock Island, Ill.
Old Colony Machine Works, Fall River, Mass.
Peerless Oil Burner Co., Inc., Kansas City, Mo. (Gravity type) Perfection Stove Co., Cleveland, O. (Rotary type). Petroleum Engineering Corp., Springfield, Mass. type).
Petroleum Heat & Power Co., Stamford, Conn. (Rotary, Gravity and Gun types).
Porter Corp., J. B., Ottawa, Ill. (Gun type).
Pressure Oil Burners, Inc., York, Pa.
R-S Products Corp., Philadelphia, Pa.
Ray Burner Co., San Francisco, Cal. (Rotary and Gravity types). Ray Burner Co., San Francisco, Cal. (Rotary and Gravity types).

Reif-Rexoil, Inc., Buffalo, N. Y.
Rotary Mfg. Co., Los Angeles, Cal.

S-K Company, Inc., Camden, N. J.
Scott-Newcomb, Inc., St. Louis, Mo.
Security Stove & Mfg. Co., Kansas City, Mo.
Silent Glow Oil Burner Corp., Hartford, Conn.
Simplex Oil Heating Corp., New York City. (Gun type).
Standard Engineering Works, St. Louis, Mo. (Gun type).
Standard Engineering Works, St. Louis, Mo. (Gun type).
Summerheat Corp. of America, Dowagiac, Mich.
Sundstrand Sales Co., Rockford, Ill. (Gun type).
Super Oil Heater Co., East Hartford, Conn. (Rotary type).
Taft Oil Burner Co., Boston, Mass. (Gun type).
Timken-Silent Automatic Co., Detroit, Mich.
Todd Oil Burner & Eng. Co., New York City.
Uni-Fire Co., Detroit, Mich. (Rotary type).
Unique Mfg. Co., Inc., Chicago, Ill.
Victor Products Corp., Hagerstown, Md.
Viking Mfg. Co., Baltimore, Md.
Wayne Oil Burner Corp., Fort Wayne, Ind. (Gun type).
Westwick & Son, Inc., John, Galena, Ill. (Gun type).
Wheland Co., Chattanooga, Tenn.
Williams Oil-O-Matic Heating Corp., Bloomington, Ill. (Gun type).
Wood Hydraulic Hoist & Body Co., Detroit, Mich. (Gun type). od Hydraulic Hoist & Body Co., Detroit, Mich. (Gun

BURNERS, RUBBISH

type). Woolery Machine Co., Minneapolis, Minn. (Gun type). York Oil Burner Co., Inc., York, Pa. (Rotary and Gun types).

Bardes Range & Foundry Co., E. H., Cincinnati, O. Butler Mfg. Co., Kansas City, Mo. Clark Co., Henry N., Boston, Mass.

Coburn Trolley Track Mfg. Co., Holyoke, Mass. Columbian Steel Tank Co., Kansas City, Mo. Harrington & King Perforating Co., Chicago, Ill. Hart & Cooley Mfg. Co., Chicago, Ill. Home Stove Co., Indianapolis, Ind. Polk Mfg. Co., Madison, Wis. Roper Corp., Geo. D., Rockford, Ill. Southbridge Roofing Co., Inc., Southbridge, Mass. Wheeling Corrugating Co., Wheeling, W. Va.

CABINET HEATERS

See Heaters, Cabinet

CAPS AND TOPS, CHIMNEY

Accurate Mfg. Works, Chicago, Ill.
Acme Tin Plate & Roofing Supply Co., Philadelphia, Pa. Ames Co., W. R., San Francisco, Calif.
Berger Bros. Co., Philadelphia, Pa.
Biersach & Niedermeyer Company, Milwaukee, Wis.
Cincinnati Sheet Metal & Roofing Co., Cincinnati, O.
Iwan Brothers, South Bend, Ind.
Maple City Furnace Co., Monmouth, Ill.
Martin Metal Mfg. Co., Wichita, Kan.
Meyer & Bro. Co., F., Peoria, Ill.
Milcor Steel Company, Milwaukee, Wis.
Robertson Steel & Iron Co., W. F., Cincinnati, O.
Schoedinger, F. O., Columbus, O.
Schoedinger, F. O., Columbus, O.
Southbridge Roofing Co., Inc., Southbridge, Mass.
Standard Ventilator Company, Lewisburg, Pa.
Sterling Foundry Company, Sterling, Ill.
Tierney Rotor Ventilator Co., Minneapolis, Minn.
Vail Mfg. Co., Fort Wayne, Ind.
Ward Co., H. H., Chester, Pa.
Watson Co., Inc., Jas. H., Bradley, Ill.
Wilder Metal Co., Niles, O.

CEILING VENTILATORS

See Ventilators, Ceiling

CEILINGS, METAL

CEILINGS, METAL

American Sheet and Tin Plate Co., Pittsburgh, Pa. Biersach & Niedermeyer Co., Milwaukee, Wis. Brooklyn-Wolf Metal Ceiling Co., Inc., Brooklyn, N. Y. Budke Stamping Co., Canonsburg, Pa. Canton Steel Ceiling Mfg. Co., Canton, O. Cincinnati Sheet Metal & Roofing Co., Cincinnati, O. Edwards Mfg. Co., Inc., Incinnati, O. Edwards Mfg. Co., Inc., Cincinnati, O. Globe Iron Roofing & Corrugating Co., Cincinnati, O. International Steel Co., Evansville, Ind. Klauer Mfg. Co., Dubuque, Ia. Martin Metal Mfg. Co., Wichita, Kan. Mesker & Co., Geo. L., Evansville, Ind. Milcor Steel Co., Milwaukee, Wis. New York Iron Roofing & Corrugating Co., Jersey City, N. J. Norman Sheet Metal Mfg. Co., W. F., Nevada, Mo. Northfield Iron Co., Northfield, Minn. Reeves Mfg. Co., Dover, O. Republic Steel Corp., Youngstown, O. St. Paul Corrugating Co., St. Paul, Minn. Schoedinger, F. O., Columbus, O. Shanker Steel Ceiling Co., New York City. Tiffin Art Metal Co., Tiffin, O. Truscon Steel Co., Youngstown, O. Watson Co., Inc., Jas. H., Bradley, Ill. Wheeling Corrugating Co., Wheeling, W. Va. Willis Mfg. Co., Galesburg, Ill. Woolwine Metal Products Co., Los Angeles, Cal. Youngstown Sheet & Tube Co., Youngstown, O.

CEMENT, ASBESTOS AND MAGNESIA

Carey Co., Philip, Lockland, O.
Clinton Metallic Paint Co., Clinton, N. Y.
Connors Paint Mfg. Co., Wm., Troy, N. Y.
Eagle-Picher Lead Co., Cincinnati, O.
Ehret Magnesia Mfg. Co., Valley Forge, Pa.
Janos Asbestos Co., New York City.
Johns-Manville Sales Corp., New York City.
Keasbey & Mattison Co., Ambler, Pa.
Norristown Magnesia & Asbestos Co., Norristown, Pa.
Pecora Paint Co., Philadelphia, Pa.
Ruberold Co., New York City.
Rutland Fire Clay Co., Rutland, Vt.
Sall Mountain Co., Chicago, Ill.
Smith & Kanzler, Inc., Elizabeth, N. J.
Standard Asbestos Mfg. Co., Chicago, Ill.

CEMENT, FURNACE

Barber Asphalt Co., Philadelphia, Pa.
Buckeye Products Co., Cincinnati, O.
Clinton Metallic Paint Co., Clinton, N. Y.
Connors Paint Mfg. Co., Wm., Troy, N. Y.
Continental Products Co., Euclid, O.
Eagle-Picher Lead Co., Cincinnati, O.
Ehret Magnesia Mfg. Co., Valley Forge, Pa.
Excelsior Stove & Mfg. Co., Quincy, Ill.

Hetzel Roofing Products Co., Newark, N. J. Johns-Manville Sales Corp., New York City. Keasbey & Mattison Co., Ambler, Pa. Lastik Products Co., Inc., Pittsburgh, Pa. National Foundry & Furnace Co., Dayton, O. Pecora Paint Co., Philadelphia, Pa. Ramtite Co., Chicago, Ill. Rutland Fire Clay Co., Rutland, Vt. Standard Asbestos Mfg. Co., Chicago, Ill. Technical Products Co., Pittsburgh, Pa. Walsh Refractories Corp., St. Louis, Mo. Wilhelm Co., A., Reading, Pa. Wilson, Inc., Grant, Chicago, Ill.

CEMENT, ROOF

Acme Refining Co., Cleveland, O.
Barber Asphalt Co., Philadelphia, Pa.
Bird & Son, Inc., East Walpole, Mass.
Carey Co., Philip, Lockland, O.
Certain-teed Products Corp., New York City.
Clinton Metallic Paint Co., Clinton, N. Y.
Connors Paint Mfg. Co., Wm., Troy, N. Y.
Continental Products Co., Euclid, O.
Ehret Magnesia Mfg. Co., Valley Forge, Pa.
Flintkote Corp., New York City.
Hetzel Roofing Products Co., Newark, N. J.
Johns-Manville Sales Corp., New York City.
Keasbey & Mattison Co., Ambler, Pa.
Koppers Products Co., Inc., Pittsburgh, Pa.
Lastik Products Co., Inc., Pittsburgh, Pa.
National Mfg. Corp., Tonawanda, N. Y.
Ohmlac Paint & Refining Co., Chicago, Ill.
Osborn Co., J. M. & L. A., Cleveland, O.
Pecora Paint Co., Philadelphia, Pa.
Ruberoid Co., New York City.
Rutland Fire Clay Co., Rutland, Vt.
Thompson & Co., Pittsburgh, Pa.
Tropical Paint & Oil Co., Cleveland, O.
Ward Co., H. H., Chester, Pa.
Wilhelm Co., A., Reading, Pa.

CHAIN, FURNACE

American Chain Co., Inc., Bridgeport, Conn. Bead Chain Mfg. Co., Bridgeport, Conn. Bridgeport Chain & Mfg. Co., Bridgeport, Conn. Chain Products Co., Cieveland, O. Corbin Screw Corp., New Britain, Conn. Hart & Cooley Mfg. Co., Chicago, Ill. H & O Chain Mfg. Co., So. Norwalk, Conn. Parker Wire Goods Co., Worcester, Mass. Russell Mfg. Co., John M., Naugatuck, Conn. Turner & Seymour Mfg. Co., Torrington, Conn. U. S. Register Co., Battle Creek, Mich.

CHANNELS

See Angles, Bars, Beams, Channels and Tees (Structural Shapes)

CHAPLETS

Angell Nail & Chaplet Co., Cleveland, O. Fanner Mfg. Co., Cleveland, O. Manhattan Perforated Metal Co., Inc., Long Island City, Stanley Electric Tool Co., New Britain, Conn.

CHIMNEY CAPS AND TOPS

See Caps and Tops, Chimney

CLEANERS, FURNACE, VACUUM

Air-O-Vac Furnace Cleaner Co., Milwaukee, Wis.

Arco Vacuum Corp., New York City.

Baker Furnace & Cleaner Mfg. Co., Toledo, O.

Breuer Electric Mfg. Co., Chicago, Ill.

Brillion Furnace Co., Brillion, Wis.

Brown, Henry, Asheville, N. C.

Cincinnati Sheet Metal & Roofing Co., Cincinnati, O.

Densmore-Quinlan Co., Kenosha, Wis.

Grand Rapids Furnace Cleaner Co., Grand Rapids, Mich.

Kent Co., Inc., Rome, N. Y.

National Super Service Co., Toledo, O.

Ramey Mfg. Co., Columbus, O.

Spencer Turbine Co., Hartford, Conn.

Sturtevant Co., B. F., Hyde Park, Boston, Mass.

Williamson Heater Co., Cincinnati, O.

CLIPS, FASTENING, FOR ROOFING

Edwards Mfg. Co., Inc., Cincinnati, O. Falstrom Co., Passaic, N. J. Hall Metal Products Co., Torrance, Cal. International Steel Co., Evansville, Ind. Osborn Co., J. M. & L. A., Cleveland, O. Turner & Seymour Mfg. Co., Torrington, Conn.

CLIPS AND TIPS, DAMPER

Excelsior Stove & Mfg. Co., Quincy, Ill.
Grand Rapids Die & Tool Co., Grand Rapids, Mich.
Hart & Cooley Mfg. Co., Chicago, Ill.
Howes Co., S. M., Charlestown, Mass.
Lamneck Products, Inc., Columbus, O.
Mueller Furnace Co., L. J., Milwaukee, Wis.
Stover Mfg. & Engine Co., Freeport, Ill.
U. S. Register Co., Battle Creek, Mich.

CLOTH, WIRE

Aluminum Co. of America, Pittsburgh, Pa.
California Wire Cloth Co., Inc., Oakland, Cal.
Central Steel & Wire Co., Chicago, Ill.
Chase Brass & Copper Co., Waterbury, Conn.
Cheney Bigelow Wire Works, Springfield, Mass.
Downs-Smith Brass & Copper Co., Long Island City, N. Y.
Gate City Iron Works, Omaha, Nebr.
Jelliff Mfg. Corp., C. O., Southport, Conn.
Ludlow-Saylor Wire Co., St. Louis, Mo.
Michigan Wire Cloth Co., Detroit, Mich.
Western Wire & Iron Works, Inc., Chicago, Ill.
Wickwire Spencer Steel Co., New York City.

COAL BURNERS, AUTOMATIC

See Stokers

COAL BURNING FURNACES

See Furnaces, Warm Air, Coal Burning COLD AIR FACES, METAL

See Faces, Cold Air, Metal

COLD AIR FACES, WOOD

See Faces, Cold Air, Wood

COLD ROLL FORMING MACHINERY

See Machinery, Cold Roll Forming

COLLECTORS, BLOW PIPE

Airtherm Mfg. Co., St. Louis, Mo.
Bayley Blower Co., Milwaukee, Wis.
Brundage Co., Kalamazoo, Mich.
Buffalo Forge Co., Buffalo, N. Y.
Champion Blower & Forge Co., Lancaster, Pa.
Clarage Fan Co., Kalamazoo, Mich.
Danzer Metal Works, Inc., Hagerstown, Md.
Falstrom Co., Passaic, N. J.
Farrel-Birmingham Co., Inc., Ansonia, Conn.
Garden City Fan Co., Chicago, Ill.
Goethel Co., Alfred C., Milwaukee, Wis.
Grand Rapids Blow Pipe & Dust Arrester Co., Grand Rapids,
Mich. Grand Rapids Blow Pipe & Dust Arrester Co., G Mich.

Kirk & Blum Mfg. Co., Cincinnati, O.
Lake Erie Engineering Corp., Buffalo, N. Y.
Lee & Son Co., Thomas, Cincinnati, O.
Lyman Co., H. B., Southampton, Mass.
New York Blower Co., Chicago, Ill.
Niagara Blower Co., New York City.
Pennsylvania Furnace & Iron Co., Warren, Pa.
Sly Mfg. Co., W. W., Cleveland, O.
Western Blower Co., Seattle, Wash.
Young & Bertke Co., Cincinnati, O.

COMPRESSORS, REFRIGERATING

See Refrigerating Units

CONCRETE PAINT

Sec Paint, Concrete, Waterproofing

CONDITIONERS, AIR

See Air Conditioning Units and Furnaces, Air Conditioning

CONDUCTOR FITTINGS AND ACCESSORIES

See Fittings and Accessories, Conductor

CONDUCTOR PIPE

See Pipe, Conductor

CONTROL VALVES, GAS PRESSURE

See Valves, Gas Pressure Regulating

CONTROLS, COMBINED FAN AND LIMIT

Cook Electric Co., Chicago, Ill.
Detroit Lubricator Co., Detroit, Mich.
Mercoid Corp., Chicago, Ill.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Peerless Electric Co., Warren, O.
Penn Electric Switch Co., Des Moines, Ia.
Russell Electric Co., Chicago, Ill.
Spencer Thermostat Co., Attleboro, Mass.
Superstat Co., Springfield, Mass.

CONTROLS, FAN

Bryant Corp., C. L., Cleveland, O.

Cook Electric Co., Chicago, Ill.
Friez & Sons, Inc., Julien P., Baltimore, Md.
Mercoid Corp., Chicago, Ill.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Peerless Electric Co., Warren, O.
Penn Electric Switch Co., Des Moines, Ia.
Pioneer Heat Regulator Corp., Dayton, O.
Russell Electric Co., Chicago, Ill.
Sheer Co., H. M., Quincy, Ill.
Spencer Thermostat Co., Attleboro, Mass.
Stat-Amatic Instrument & Appliance Co., Hartford, Conn.
Superstat Co., Springfield, Mass.
United Electric Controls Co., Boston, Mass.

CONTROLS, GAS BURNER

CONTROLS, GAS BURNER

Automatic Products Co., Milwaukee, Wis.
Barber Gas Burner Co., Cleveland, O.
Bryant Corp., C. L., Cleveland, O.
Detroit Lubricator Co., Detroit, Mich.
Electrogas Furnace & Mfg. Co., San Francisco, Cal.
Leahy Mfg. Co., Los Angeles, Cal.
Mercoid Corp., Chicago, Ill.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Morey & Jones, Ltd., Los Angeles, Cal. (Industrial).
Penn Electric Switch Co., Des Moines, Ia.
Phillips Heating, Ventilating & Mfg. Co., Los Angeles, Cal.
Roberts-Gordon Appliance Corp., Buffalo, N. Y.
Robertshaw Thermostat Co., Youngwood, Pa.
Sheer Co., H. M., Quincy, Ill.
Spencer Thermostat Co., Attleboro, Mass.
Stat-Amatic Instrument & Appliance Co., Hartford, Conn.
Superstat Co., Springfield, Mass.
Supreme Electric Products Corp., Rochester, N. Y.

CONTROLS, HEATING, VENTILATING & AIR CONDITIONING SYSTEMS, ELECTRIC

CONDITIONING SYSTEMS, ELECTRIC

Alco Valve Co., Inc., St. Louis, Mo.
Automatic Products Co., Milwaukee, Wis.
Barber-Colman Co., Rockford, Ill.
Bristol Co., Waterbury, Conn.
Brown Instrument Co., Philadelphia, Pa.
Cook Electric Co., Chicago, Ill.
Detroit Lubricator Co., Detroit, Mich.
Foxboro Co., Foxboro, Mass.
Friez & Sons, Inc., Julien P., Baltimore, Md.
General Electric Co., Schenectady, N. Y.
Grinnell Co., Inc., Providence, R. I.
Mercoid Corp., Chicago, Ill.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Parks-Cramer Co., Fitchburg, Mass.
Penn Electric Switch Co., Des Moines, Ia.
Russell Electric Co., Chicago, Ill.
Sheer Co., H. M., Quincy, Ill.
Spencer Thermostat Co., Attleboro, Mass.
Stat-Amatic Instrument & Appliance Co., Hartford, Conn.
Struthers Dunn, Inc., Philadelphia, Pa.
Superstat Co., Springfield, Mass.
Supreme Electric Products Corp., Rochester, N. Y.
Ward Leonard Electric Co., Mt. Vernon, N. Y.

CONTROLS, HEATING, VENTILATING & AIR CONDITIONING SYSTEMS, PNEUMATIC

Bristol Co., Waterbury, Conn.
Foxboro Co., Foxboro, Mass.
Friez & Sons, Inc., Julien P., Baltimore, Md.
Johnson Service Co., Milwaukee, Wis.
National Regulator Co., Chicago, Ill.
Powers Regulator Co., Chicago, Ill.

CONTROLS, HUMIDITY

Automatic Products Co., Milwaukee, Wis.
Barber-Colman Co., Rockford, Ill.
Bristol Co., Waterbury, Conn.
Brown Instrument Co., Philadelphia, Pa.
Consolidated Ashcroft Hancock Co., Bridgeport, Conn.
Detroit Lubricator Co., Detroit, Mich.
Foxboro Co., Foxboro, Mass.
Friez & Sons, Inc., Julien P., Baltimore, Md.
Humidity Control Co., Tacoma, Wash.
Johnson Service Co., Milwaukee, Wis.
Johnson Tool Co., East Providence, R. I.
Lewis Air Conditioners, Inc., Minneapolis, Minn.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Parks-Cramer Co., Fitchburg, Mass.
Penn Electric Switch Co., Des Moines, Ia.
Powers Regulator Co., Chicago, Ill.
Russell Electric Co., Chicago, Ill.
Sheer Co., H. M., Quincy, Ill.
Somers, Inc., H. J., Detroit, Mich.
Supreme Electric Products Corp., Rochester, N. Y.
Taylor Instrument Companies, Rochester, N. Y.

CONTROLS, LIMIT

Barber-Colman Co., Rockford, Ill. Bishop & Babcock Sales Co., Cleveland, O. Bryant Corp., C. L., Cleveland, O. Cook Electric Co., Chicago, Ill.

Friez & Sons, Inc., Julien P., Baltimore, Md.
Hart & Cooley Mfg. Co., Chicago, Ill.
Mercoid Corp., Chicago, Ill.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Penn Electric Switch Co., Des Moines, Ia.
Pioneer Heat Regulator Co., Dayton, O.
Robertshaw Thermostat Co., Youngwood, Pa.
Russell Electric Co., Chicago, Ill.
Sheer Co., H. M., Quincy, Ill.
Spencer Thermostat Co., Attleboro, Mass.
Superstat Co., Springfield, Mass.
Teeple Co., L. R., Portland, Ore.
United Electric Controls Co., Boston, Mass.

CONTROLS, OIL BURNER

Bishop & Babcock Sales Co., Cleveland, O.
Detroit Lubricator Co., Detroit, Mich.
Friez & Sons, Inc., Julien P., Baltimore, Md.
Kelvinator Sales Corp., Detroit, Mich.
Leahy Mfg. Co., Los Angeles, Cal.
Leland Electric Co., Dayton, O.
Mercoid Corp., Chicago, Ill.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Morey & Jones, Ltd., Los Angeles, Cal.
Penn Electric Switch Co., Des Moines, Ia.
R-S Products Corp., Philadelphia, Pa.
Ray Burner Co., San Francisco, Cal.
Robertshaw Thermostat Co., Youngwood, Pa.
Spencer Thermostat Co., Attleboro, Mass.
Supreme Electric Products Corp., Rochester, N. Y.
United Electric Controls Co., Boston, Mass.
Williams Oil-O-Matic Heating Corp., Bloomington, Ill.

CONTROLS, ROOM TEMPERATURE

CONTROLS, ROOM TEMPERATURE

Automatic Products Co., Milwaukee, Wis.
Barber-Colman Co., Rockford, Ill.
Bishop & Babcock Sales Co., Cleveland, O.
Bryant Corp., C. L., Cleveland, O.
Cary Mfg. Co., Waupaca, Wis.
Cook Electric Co., Chicago, Ill.
Detroit Lubricator Co., Detroit, Mich.
Finnell Rotary Stokers, Inc., Elkhart, Ind.
Friez & Sons, Inc., Julien P., Baltimore, Md.
General Electric Co., New York City.
Hart & Cooley Mfg. Co., Chicago, Ill.
Johnson Service Co., Milwaukee, Wis.
Kelvinator Sales Corp., Detroit, Mich.
Mercoid Corp., Chicago, Ill.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Modern Heat Regulator Co., Cleveland, O.
National Regulator Co., Chicago, Ill.
Penn Electric Switch Co., Des Moines, Ia.
Pioneer Heat Regulator Corp., Dayton, O.
Powers Regulator Co., Chicago, Ill.
Precision Thermometer & Instrument Co., Philadelphia, Pa.
Robertshaw Thermostat Co., Youngwood, Pa.
Russell Electric Co., Chicago, Ill.
Spencer Thermostat Co., Attleboro, Mass.
Stat-Amatic Instrument & Appliance Co., Hartford, Conn.
Superstat Co., Springfield, Mass.
Supreme Electric Products Corp., Rochester, N. Y.
Taylor Instrument Companies, Rochester, N. Y.
Taylor Instrument Companies, Rochester, N. Y.
Teeple Co., L. R., Portland, Ore.
United Electric Controls Co., Boston, Mass.
White Mfg. Co., St. Paul, Minn.

CONTROLS, STOKER

CONTROLS, SIONER

Butler Mfg. Co., Kansas City, Mo.
Cook Electric Co., Chicago, Ill.
Fairbanks, Morse & Co., Chicago, Ill.
Finnell Rotary Stokers, Inc., Elkhart, Ind.
Friez & Sons, Inc., Julien P., Baltimore, Md.
Leland Electric Co., Dayton, O.
Mercoid Corp., Chicago, Ill.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Morey & Jones, Ltd., Los Angeles, Cal. (Industrial).
Penn Electric Switch Co., Des Moines, Ia.
Ploneer Heat Regulator Corp., Dayton, O.
Russell Electric Co., Chicago, Ill.
Struthers Dunn, Inc., Philadelphia, Pa.
Superstat Co., Springfield, Mass.
United Electric Controls Co., Boston, Mass.

COOLERS, ROOM, ICE

Air Conditioning Engineering Co., Cambridge, Mass.
American Blower Corp., Detroit, Mich.
Baldor Electric Co., St. Louis, Mo.
Barret Regulation Engineers Co., Inc., Cleveland Heights, O.
Betz Unit Air Cooler Co., Kansas City, Mo.
Buffalo Forge Co., Buffalo, N. Y.
Carrier Products Corp., Newark, N. J.
Chicago Pump Co., Chicago, Ill.
Corozone Co., Cleveland, O.
Hill Co., E. Vernon, Chicago, Ill.
Hill & Co., Inc., C. V., Trenton, N. J.
Ilg Electric Ventilating Co., Chicago, Ill.
Kaiser Co., H. S., Chicago, Ill.
King Ventilating Co., Owatonna, Minn.
Lewis Air Conditioners, Inc., Minneapolis, Minn.

Meyer Furnace Co., Peoria, Ill.
Modine Mfg. Co., Racine, Wis.
Standard Engineering Works, St. Louis, Mo.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
Typhoon Air Conditioning Co., Inc., New York City.
U. S. Air Conditioning Corp., Minneapolis, Minn.
Watt Mfg. Co., Sterling, Ill.
Young Radiator Co., Racine, Wis.

COOLERS, ROOM, MECHANICAL

COOLERS, ROOM, MECHANICAL

American Blower Corp., Detroit, Mich.
Baldwin-Southwark Corp., Philadelphia, Pa.
Buffalo Forge Co., Buffalo, N. Y.
Campbell Metal Window Corp., New York City.
Carrier Products Corp., Newark, N. J.
Frantz-Carroll Systems, Cleveland, O.
Frigidaire Corp., Dayton, O.
General Electric Co., New York City.
Grinnell Co., Inc., Providence, R. I.
Hill Co., E. Vernon, Chicago, Ill.
Hill & Co., Inc., C. V., Trenton, N. J.
Humidi-Cooler Corp., West Haven, Conn.
Ilg Electric Ventilating Co., Chicago, Ill.
Kelvinator Sales Corp., Detroit, Mich.
King Ventilating Co., Owatonna, Minn.
Nelson Corp., Herman, Moline, Ill.
Scott-Newcomb, Inc., St. Louis, Mo.
Servel Sales, Inc., Evansville, Ind.
Stilphen Engineering & Mfg. Co., C. A., Denver, Colo.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
Thermal Units Mfg. Co., Chicago, Ill.
Trane Co., La Crosse, Wis.
U. S. Air Conditioning Corp., Minneapolis, Minn.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Williams Oil-O-Matic Heating Corp., Bloomington, Ill.
Wurlitzer Mfg. Co., Rudolph, North Tonawanda, N. Y.
York Ice Machinery Corp., York, Pa.
Young Radiator Co., Racine, Wis.

COPPER BEARING STEEL SHEETS

See Sheets, Copper Bearing Steel

COPPER NAILS See Nails, Copper

COPPER, PLATE & ROLL

American Brass Co., Waterbury, Conn.

American Nickeloid Co., Peru, Ill.

Apollo Co., La Salle, Ill.

Chase Brass & Copper Co., Waterbury, Conn.

Downs-Smith Brass & Copper Co., Long Island City, N. Y.

Hussey & Co., C. G., Pittsburgh, Pa.

National Brass & Copper Co., Lisbon, O.

Revere Copper & Brass, Inc., New York City.

COPPER RIVETS

See Rivets, Brass, Copper and Iron

COPPER ROOFING

See Roofing, Copper

COPPER SHEETS

See Sheets, Copper

COPPER SHEETS, LEAD COATED

See Sheets, Copper, Lead Coated

COPPERS, SOLDERING

Bernz Co., Inc., Otto, Rochester, N. Y.
Chase Brass & Copper Co., Waterbury, Conn.
Clendenin Bros., Baltimore, Md.
Downs-Smith Brass & Copper Co., Long Island City, N. Y.
Electric Materials Co., North East, Pa.
Emrich, Phil, Cincinnati, O.
Everhot Mfg. Co., Maywood, Ill.
Klauer Mfg. Co., Dubuque, Ia.
Linde Air Products Co., New York City.
Minn-Kota Foundry & Mfg. Co., Fargo, N. Dak.
Peck, Stow & Wilcox Co., Southington, Conn.
Revere Copper & Brass, Inc., New York City.
Smith Welding Equipment Corp., Minneapolis, Minn.
Turner Brass Works, Sycamore, Ill.

CORNICES

Ames Co., W. R., San Francisco, Cal.
Barnes Metal Products Co., Chicago, Ill.
Berger Bros. Co., Philadelphia, Pa.
Biersach & Niedermeyer Co., Milwaukee, Wis.
Birosklyn-Wolf Metal Celling Co., Inc., Brooklyn, N. Y.
California Cornice Works, Inc., Los Angeles, Cal.
Cincinnati Sheet Metal & Roofing Co., Cincinnati, O.
Danzer Metal Works, Inc., Hagerstown, Md.
Decatur Iron & Steel Co., Decatur, Ala.
Downs-Smith Brass & Copper Co., Long Island City, N. Y.
Edwards Mfg. Co., Inc., Cincinnati, O.
General Sheet Metal Works, Inc., Bridgeport, Conn.
Globe Iron Roofing & Corrugating Co., Cincinnati, O.
Herrmann & Grace Co., Brooklyn, N. Y.

International Steel Co., Evansville, Ind.
Kuhnla, Inc., August, Brooklyn, N. Y.
La Crosse Steel Roofing & Corrugating Co., La Crosse, Wis.
Lee & Son Co., Thomas, Cincinnati, O.
Martin Metal Mfg. Co., Wichita, Kans.
Meyer & Bro. Co., F., Peoria, Ill.
Milcor Steel Co., Milwaukee, Wis.
New Delphos Mfg. Co., Delphos, O.
Norman Sheet Metal Mfg. Co., W. F., Nevada, Mo.
Perkinson & Brown, Chicago, Ill.
Philadelphia Metal Stamping Co., Camden, N. J.
Republic Steel Corp, Youngstown, O.
Riester & Thesmacher Co., Cleveland, O.
St. Paul Corrugating Co., St. Paul, Minn.
Schoedinger, F. O., Columbus, O.
Southbridge Roofing Co., Inc., Southbridge, Mass.
Tiffin Art Metal Co., Tiffin, O.
Truscon Steel Co., Youngstown, O.
Van Noorden Co., E., Boston, Mass.
Watson Co., Inc., Jas. H., Bradley, Ill.
Wheeling Metal & Mfg. Co., Wheeling, W. Va.
Willis Mfg. Co., Galesburg, Ill.
Woolwine Metal Products Co., Los Angeles, Cal.
York Corrugating Co., York, Pa.

COVERING, FURNACE AND PIPE

Armstrong Cork & Insulation Co., Lancaster, Pa. Connors Paint Mfg. Co., Wm., Troy, N. Y. Eagle-Picher Lead Co., Cincinnati, O. Ehfet Magnesia Mfg. Co., Valley Forge, Pa. Johns-Manville Sales Corp., New York City. Keasbey & Mattison Co., Ambler, Pa. Mineral Felt Co., Toledo, O. Norristown Magnesia & Asbestos Co., Norristown, Pa. Ruberoid Co., New York City. Sall Mountain Co., Chicago, Ill. Smith & Kanzler, Inc., Elizabeth, N. J. Standard Asbestos Mfg. Co., Chicago, Ill. Standard Lime & Stone Co., Baltimore, Md. Union Fibre Co., Inc., Winona, Minn. U. S. Mineral Wool Co., New York City. Wilson, Inc., Grant, Chicago, Ill.

CRIMPING MACHINES

See Machines, Crimbina

CULVERT MACHINERY

See Machinery, Culvert

CUTTING TORCHES

See Torches, Brazing, Cutting, Etc.

DAMPER CLIPS AND TIPS

See Clips and Tips, Damper

DAMPER MOTORS

See Motors, Damper, Electrical and Mechanical

DAMPERS, QUADRANTS AND ACCESSORIES

American Warming & Ventilating Co., Toledo, O. California Cornice Works, Inc., Los Angeles, Cal. Campbell Companies, E. K., Kansas City, Mo. Hart & Cooley Mfg. Co., Chicago, Ill. Mueller Furnace Co., L. J., Milwaukee, Wis. Parker-Kalon Corp., New York City. Schoedinger, F. O., Columbus, O. Tuttle & Bailey, Inc., New Britain, Conn. U. S. Register Co., Battle Creek, Mich. Young Ventilating Co., Cleveland, O.

DAMPERS, SMOKE PIPE

Boynton Furnace Co., New York City.
Brauer Supply Co., A. G., St. Louis, Mo.
Excelsior Stove & Mfg. Co., Quincy, Ill.
Grand Rapids Die & Tool Co., Grand Rapids, Mich.
Griswold Mfg. Co., Erie, Pa.
Howes Co., S. M., Charlestown, Mass.
Jewett Stove & Foundry Corp., Buffalo, N. Y.
Liberty Foundry Co., St. Louis, Mo.
Maple City Furnace Co., Monmouth, Ill.
Milcor Steel Co., Milwaukee, Wis.
Mt. Vernon Furnace & Mfg. Co., Mt. Vernon, Ill.
Mueller Furnace Co., L. J., Milwaukee, Wis.
Parker-Kalon Corp., New York City.
Perfection Stove Co., Pittston, Pa.
St. Clair Foundry Corp., Centralia, Ill.
Schoedinger, F. O., Columbus, O.
Stover Mfg. & Engine Co., Freeport, Ill.
Tuttle & Bailey, Inc., New Britain, Conn.
U. S. Register Co., Battle Creek, Mich.
Watson Co., Inc., Jas. H., Bradley, Ill.
Western Steel Products Co., New Duluth, Minn.
Wilder Metal Co., Niles, O.

DERRICKS, ROOFERS'

All States Roofers Equipment & Material Co., Chicago, Ill. Marion Machine Foundry & Supply Co., Marion, Ind.

DESTROYERS, SOOT

Cooper Sanitary Mfg. Co., Philadelphia, Pa. Healy-Ruff Co., St. Paul, Minn. Saginaw Salt Products Co., Saginaw, Mich. Weldum Products Co., Inc., Indianapolis, Ind.

DIES AND PRESSES

See Presses and Dies

DIFFUSERS, AIR DUCT

Campbell Companies, E. K., Kansas City, Mo. Niagara Blower Co., New York City. Pennsylvania Furnace & Iron Co., Warren, Pa. WAJ Manufacturing Co., Kansas City, Mo. Ward Co., H. H., Chester, Pa. Young & Bertke Co., Cincinnati, O.

DIPPERS, ROOFERS'

All States Roofers Equipment & Material Co., Chicago, Ill. Levow, David, New York City. Southbridge Roofing Co., Inc., Southbridge, Mass. Ward Co., H. H., Chester, Pa.

DOMESTIC STOKERS

See Stokers, Domestic

DOORS, ASH PIT

Bardes Range & Foundry Co., E. H., Cincinnati, O. Covert Co., H. W., New York City.
Danzer Metal Works, Inc., Hagerstown, Md.
Excelsior Stove & Mfg. Co., Quincy, Ill.
General Blower Co., Vineland, N. J.
Home Stove Co., Indianapolis, Ind.
Jewett Stove & Foundry Corp., Buffalo, N. Y.
Klauer Mfg. Co., Dubuque, Ia.
Majestic Co., Huntington, Ind.
Maple City Furnace Co., Monmouth, Ill.
Marion Machine Foundry & Supply Co., Marion, Ind.
Mesker & Co., Geo. L., Evansville, Ind.
Mt. Vernon Furnace & Mfg. Co., Mt. Vernon, Ill.
Portland Stove Foundry Co., Portland, Me.
Richmond Fireproof Door Co., Richmond, Ind.
Sterling Foundry Co., Sterling, Ill. Sterling Foundry Co., Sterling, Ill. Stover Mfg. & Engine Co., Freeport, Ill. Wheeling Corrugating Co., Wheeling, W. Va.

DOORS, HOLLOW METAL

Bayer Co., A. J., Los Angeles, Cal.
Biersach & Niedermeyer Co., Milwaukee, Wis.
Herrmann & Grace Co., Brooklyn, N. Y.
Metal Door & Trim Co., La Porte, Ind.
Newman Brothers, Inc., Cincinnati, O.
Perkinson & Brown, Chicago, Ill.
Truscon Steel Co., Youngstown, O.

DOORS, KALAMEIN

Architectural Metal Products Co., Cincinnati, O. Biersach & Niedermeyer Co., Milwaukee, Wis. California Cornice Works, Inc., Los Angeles, Cal. Cincinnati Mfg. Co., Cincinnati, O. Coburn Trolley Track Mfg. Co., Holyoke, Mass. Danzer Metal Works, Inc., Hagerstown, Md. Edwards Mfg. Co., Inc., Cincinnati, O. Empire Door Co., New York City. Herrmann & Grace Co., Brooklyn, N. Y. Mesker & Co., Geo. L., Evansville, Ind. Newman Brothers, Inc., Cincinnati, O. Perkinson & Brown, Chicago, Ill. Philipp Mfg. Co., Easthampton, Mass. Richmond Fireproof Door Co., Richmond, Ind. Riester & Thesmacher Co., Cleveland, O. Syracuse Fire Door Corp., Syracuse, N. Y. Van Noorden Co., E., Boston, Mass. World Fire Proof Door Corp., New York City.

DOORS AND SHUTTERS, FIRE

Bardes Range & Foundry Co., E. H., Cincinnati, O. Biersach & Niedermeyer Co., Milwaukee, Wis. Coburn Troiley Track Mfg. Co., Holyoke, Mass. Cornell Iron Works, Inc., Long Island City, N. Y. Danzer Metal Works, Inc., Langerstown, Md. Detroit Steel Products Co., Detroit, Mich. Edwards Mfg. Co., Inc., Cincinnati, O. Empire Door Co., New York City. Falstrom Co., Passaic, N. J. Herrmann & Grace Co., Brooklyn, N. Y. Kinnear Mfg. Co., Columbus, O. Merchant & Evans Co., Philadelphia, Pa. Mesker & Co., Geo. L., Evansville, Ind. Perkinson & Brown, Chicago, Ill. Philipp Mfg. Co., Easthampton, Mass. Richards-Wilcox Mfg. Co., Aurora, Ill. Richmond Fireproof Door Co., Richmond, Ind. Saino Mfg. Co., Inc., F. L., Memphis, Tenn. St. Paul Corrugating Co., St. Paul, Minn.

Schoedinger, F. O., Columbus, O.
Southbridge Roofing Co., Inc., Southbridge, Mass.
Syracuse Fire Door Corp., Syracuse, N. Y.
Van Noorden Co., E., Boston, Mass.
Western Wire & Iron Works, Inc., Chicago, Ill.
Willis Mfg. Co., Galesburg, Ill.
World Fire Proof Door Corp., New York City.

DRAFT GAGES

See Gages, Draft

DRAFT REGULATORS

See Regulators, Furnace, Draft, Automatic and Manual

DRILLS, PORTABLE, HAND AND BENCH, ELECTRIC

Black & Decker Mfg. Co., Towson, Md. Buffalo Forge Co., Buffalo, N. Y. Clark Jr., Electric Co., Jas., Louisville, Ky. Henry & Wright Mfg. Co., Hartford, Conn. Independent Pneumatic Tool Co., Chicago, Ill. Portable Power Tool Corp., Warsaw, Ind. Rawlplug Co., Inc., New York City. Stanley Electric Tool Co., New Britain, Conn. Star Expansion Bolt Co., New York City. Stow Mfg. Co., Inc., Binghamton, N. Y.

DRIVE SCREWS

See Screws, Drive

DRIVES, TRANSMISSION

Alexander Bros., Philadelphia, Pa.
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
American Pulley Co., Philadelphia, Pa.
Dodge Mfg. Corp., Mishawaka, Ind.
Dayton Rubber Mfg. Co., Dayton, O.
Dick Co., Inc., R. & J., Passaic, N. J.
Gilmer Co., L. H., Tacony, Philadelphia, Pa.
Goldens' Foundry & Machine Co., Columbus, Ga.
Goodrich Rubber Co., B. F., Akron, O.
Graton & Knight Co., Worcester, Mass.
Jones Foundry & Machine Co., W. A., Chicago, Ill.
Manhattan Rubber Mfg. Division of Raybestos-Manhattan,
Inc., Passaic, N. J.
Medart Co., St. Louis, Mo.
Ohio Valley Pulley Works, Maysville, Ky.
Pyott Foundry & Machine Co., Chicago, Ill.
Rhoads & Sons, J. E., Philadelphia, Pa.
Rockwood Mfg. Co., Indianapolis, Ind.
Wood's Sons Co., T. B., Chambersburg, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.

DUCT INSULATION

See Insulation, Duci

EAVES TROUGH AND GUTTERS

EAVES TROUGH AND GUTTERS

Ames Co., W. R., San Francisco, Cal.
Anderson Mfg. Co., Des Moines, Ia.
Barnes Metal Products Co., Chicago, Ill.
Beatrice Steel Tank Mfg. Co., Beatrice, Nebr.
Berger Bros. Co., Philadelphia, Pa.
Biersach & Niedermeyer Co., Milwaukee, Wis.
Braden Mfg. Co., Terre Haute, Ind.
Chase Brass & Copper Co., Waterbury, Conn.
Cincinnati Sheet Metal & Roofing Co., Cincinnati, O.
Continental Steel Corp., Kokomo, Ind.
Danzer Metal Works, Inc., Hagerstown, Md.
Decatur Iron & Steel Co., Decatur, Ala.
Double Duty Co., Aurora, Ill. (Eaves Trough Ends).
Downs-Smith Brass & Copper Co., Long Island City, N. Y.
Edwards Mfg. Co., Inc., Cincinnati, O.
General Sheet Metal Works, Inc., Bridgeport, Conn.
Globe Iron Roofing & Corrugating Co., Cincinnati, O.
Hussey & Co., C. G., Pittsburgh, Pa. (Copper).
Klauer Mfg. Co., Dubuque, Ia.
La Crosse Steel Roofing & Corrugating Co., La Crosse, Wis.
Lyman Co., H. B., Southampton, Mass.
Lyon, Conklin & Co., Inc., Baltimore, Md.
Martin Metal Mfg. Co., Wichita, Kan.
Milcor Steel Co., Milwaukee, Wis.
Miller & Doing, Inc., Brooklyn, N. Y.
New Delphos Mfg. Co., Delphos, O.
New York Iron Roofing & Corrugating Co., Jersey City, N. J.
Norman Sheet Metal Mfg. Co., W. F., Nevada, Mo.
Obdyke, Inc., Benjamin P., Philadelphia, Pa.
Osborn Co., J. M. & L. A., Cleveland, O.
Perkinson & Brown, Chicago, Ill.
Reeves Mfg. Co., Dover, O.
Republic Steel Corp., Youngstown, O.
Riester & Thesmacher Co., Cleveland, O.
St. Paul Corrugating Co., St. Paul, Minn.
Schoedinger, F. O., Columbus, O.
Tiffin Art Metal Co., Tiffin, O.
Van Noorden Co., E., Boston, Mass.
Watson Co., Inc., Jas. H., Bradley, Ill.
Western Steel Products Co., New Duluth, Minn.
Wheeling Corrugating Co., Wheeling, W. Va.
Willis Mfg. Co., Galesburg, Ill.

Woolwine Metal Products Co., Los Angeles, Cal. York Corrugating Co., York, Pa.

EAVES TROUGH FITTINGS AND ACCESSORIES

See Fittings and Accessories, Eaves Trough and Gutter

EDGING, ROOF

EDGING, ROOF

Acme Tin Plate & Roofing Supply Co., Philadelphia, Pa. Barnes Metal Products Co., Chicago, Ill.
Beatrice Steel Tank Mfg. Co., Beatrice, Nebr.
Berger Bros. Co., Philadelphia, Pa.
Cincinnati Sheet Metal & Roofing Co., Cincinnati, O.
Danzer Metal Works, Inc., Hagerstown, Md.
Decatur Iron & Steel Co., Decatur, Ala.
Downs-Smith Brass & Copper Co., Long Island City, N. Y.
General Sheet Metal Works, Inc., Bridgeport, Conn.
Globe Iron Roofing & Corrugating Co., Cincinnati, O.
Hall Metal Products Co., Torrance, Cal.
Johns-Manville Sales Corp., New York City.
Klauer Mfg. Co., Dubuque, Ia.
La Crosse Steel Roofing & Corrugating Co., La Crosse, Wis.
Milcor Steel Co., Milwaukee, Wis.
New Delphos Mfg. Co., Delphos, O.
New York Iron Roofing & Corrugating Co., Jersey City, N. J.
Norman Sheet Metal Mfg. Co., W. F., Nevada, Mo.
Osborn Co., J. M. & L. A., Cleveland, O.
Reeves Mfg. Co., Dover, O.
St. Paul Corrugating Co., St. Paul, Minn.
Schoedinger, F. O., Columbus, O.
Tiffin Art Metal Co., Tiffin, O.
Van Noorden Co., E., Boston, Mass.
Watson Co., Inc., Jas. H., Bradley, Ill.
Willis Mfg. Co., Galesburg, Ill.
York Corrugating Co., York, Pa.

ELBOW MAKING MACHINERY

See Machinery, Elbow Making

ELBOWS, BLOW PIPE

See Fittings; Blow Pipe

ELBOWS, CONDUCTOR

See Fittings and Accessories, Conductor

ELBOWS, FURNACE PIPE

See Pipe, Furnace, Fittings and Accessories

ELECTRIC DRILLS

See Drills, Portable, Hand and Bench, Electric

ELECTRIC MOTORS

See Motors, Electric

ELECTRIC SWITCHES

See Switches, Electric

ELECTRIC WELDERS

See Welders, Electric

ELECTRODES, ARC WELDING

American Steel & Wire Co., Chicago, Ill.
Central Steel & Wire Co., Chicago, Ill.
Chicago Steel & Wire Co., Chicago, Ill.
Chicago Steel & Wire Co., Chicago, Ill.
General Electric Co., Schenectady, N. Y.
Hobart Bros. Co., Troy, O.
Hollup Corp., Chicago, Ill.
Lincoln Electric Co., Cleveland, O.
Linde Air Products Co., New York City.
Metal & Thermit Corp., New York City.
Page Steel & Wire Co., Monessen, Pa.
Roebling & Sons, John A., Trenton, N. J.
Torchweld Equipment Co., Chicago, Ill.
Una Welding, Inc., Cleveland, O.
Universal Power Corp., Cleveland, O.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Wilson Welder & Metals Co., Inc., North Bergen, N. J.

EXHAUST BLOWERS

See Blowers, Exhaust and Ventilating

EXHAUST FANS

See Fans, Ventilating

EXPANDED METAL LATH

See Lath, Expanded Metal

EXPANSION BOLTS

See Bolts, Expansion

EXTENSION LADDERS

See Ladders, Step and Extension

EXHAUST VENTILATORS, KITCHEN

See Ventilators, Kitchen Exhaust

FABRICATED METAL FLOORING

See Flooring, Fabricated Metal

FACES, COLD AIR, METAL

American Foundry & Furnace Co., Bloomington, Ill.

Auer Register Co., Cleveland, O. Bergstrom Mfg. Co., Neenah, Wis. Campbell Companies, E. K., Kansas City, Mo. Hart & Cooley Mfg. Co., Chicago, Ill. Ideal Furnace Co., Detroit, Mich. Independent Register & Mfg. Co., Cleveland, O. Lamneck Products, Inc., Columbus, O. Mueller Furnace Co., L. J., Milwaukee, Wis. Rock Island Register Co., Rock Island, Ill. Springman Metal Specialty Co., Detroit, Mich. Symonds Register Co., St. Louis, Mo. U. S. Register Co., Battle Creek, Mich. Waterloo Register Co., Waterloo, Ia.

FACES, COLD AIR, WOOD

American Wood Register Co., Plymouth, Ind.
Antigo Bldg. & Supply Co., Antigo, Wis.
Garber Lumber & Construction Co., Strasburg, O.
Marsh Lumber Co., Dover, O.
McClure Builders' Supply Co., East Palestine, O.
Milcor Steel Co., Milwaukee, Wis.
Scott Wood Register Co., Charlotte, Mich.
U. S. Register Co., Battle Creek, Mich.
Waterloo Register Co., Waterloo, Ia.
West Bend Lumber Co., West Bend, Wis.
Wooster Art Wood, Inc., Wooster, O.

FAN BEARINGS

Sec Bearings, Fan

FAN CONTROLS

See Controls, Fan

FAN AND LIMIT CONTROLS

See Controls, Combined Fan and Limit

FAN ROOF VENTILATORS

See Ventilators, Roof, Fan

FANS AND WHEELS

See Wheels and Fans

FANS, BOOSTER

A-C Mfg. Co., Inc., Pontiac, Ill.
Air Controls, Inc., Cleveland, O.
American Blower Corp., Detroit, Mich.
American Foundry & Furnace Co., Bloomington, Ill.
Autovent Fan & Blower Co., Chicago, Ill.
Buffalo Forge Co., Buffalo, N. Y.
Electrovent Corp., Detroit, Mich.
Emerson Electric Mfg. Co., St. Louis, Mo.
Forct-Air Co., Rockford, Ill.
General Blower Co., Vineland, N. J.
Hess Warming & Ventilating Co., Chicago, Ill.
Ilg Electric Ventilating Co., Chicago, Ill.
Johnston Co., Wm. W., Dayton, O.
Peerless Electric Co., Warren, O.
Roan Mfg. Co., Racine, Wis.
Robinson Heating & Ventilating Corp., Massillon, O.
Rock Island Register Co., Rock Island, Ill.
Russell Electric Co., Chicago, Ill.
Schwitzer-Cummins Co., Indianapolis, Ind.
Stilphen Engineering & Mfg. Co., C. A., Denver, Colo.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
Torrington Mfg. Co., Torrington, Conn.
Universal Blower Co., Birmingham, Mich.
Victor Electric Products, Inc., Cincinnatl, O.
Watt Mfg. Co., Sterling, Ill.
Western Blower Co., Seattle, Wash.

FANS, FURNACE, PROPELLER TYPE

FANS, FURNACE, PROPELLER TYPE

Air Controls, Inc., Cleveland, O.
American Blower Corp., Detroit, Mich.
American Foundry & Furnace Co., Bloomington, Ill.
Autovent Fan & Blower Co., Chicago, Ill.
Bayley Blower Co., Milwaukee, Wis.
Bishop & Babcock Sales Co., Cleveland, O.
Buffalo Forge Co., Buffalo, N. Y.
Campbell Companies, E. K., Kansas City, Mo.
Campbell Heating Co., Des Moines, Ia.
De Bothezat Impeller Co., Inc., New York City.
Detroit Michigan Stove Co., Detroit, Mich.
Electrovent Fan & Mfg. Co., St. Louis, Mo.
Forct-Air Co., Rockford, Ill.
Harold Furnace Mfg. Co., Spokane, Wash.
Hess Warming & Ventilating Co., Chicago, Ill.
Holland Furnace Co., Holland, Mich.
Ilg Electric Ventilating Co., Chicago, Ill.
International Engineering, Inc., Dayton, O.
Johnston Co., Wm. W., Dayton, O.
Kansas City Furnace Co., Kansas City, Mo.
Marshall Furnace Co., Marshall, Mich.
Meier Electric & Machine Co., Indianapolis, Ind.
Miles Furnace Fan Div. of Henry Furnace & Fdy. Co.,
Cleveland, O.
Peerless Electric Co., Warren, O.
Robinson Heating & Ventilating Corn., Massillon, O. Cleveland, O. Peerless Electric Co., Warren, O. Robinson Heating & Ventilating Corp., Massillon, O. Russell Electric Co., Chicago, Ill. Schwitzer-Cummins Co., Indianapolis, Ind.

Stilphen Engineering & Mfg. Co., C. A., Denver, Colo. Sturtevant Co., B. F., Hyde Park, Boston, Mass. Torrington Mfg. Co., Torrington, Conn. Universal Blower Co., Birmingham, Mich. Wagner Electric Corp., St. Louis, Mo. Watt Mfg. Co., Sterling, Ill. Western Blower Co., Seattle, Wash. Williamson Heater Co., Cincinnati, O.

FANS, VENTILATING, CENTRIFUGAL TYPE

Aladdin Heating Corp., Oakland, Cal.
American Blower Corp., Detroit, Mich.
American Foundry & Furnace Co., Bloomington, Ill.
Ames Co., W. R., San Francisco, Cal.
Autovent Fan & Blower Co., Chicago, Ill.
Bayley Blower Co., Milwaukee, Wis.
Bishop & Babcock Sales Co., Cleveland, O.
Brundage Co., Kalamazoo, Mich.
Buffalo Forge Co., Buffalo, N. Y.
Campbell Companies, E. K., Kansas City, Mo.
Campbell Heating Co., Des Moines, Ia.
Champion Blower & Forge Co., Lancaster, Pa.
Clarage Fan Co., Kalamazoo, Mich.
Garden City Fan Co., Chicago, Ill.
Gehri & Co., A., Tacoma, Wash.
General Blower Co., Vineland, N. J.
Grand Rapids Die & Tool Co., Grand Rapids, Mich.
Ilg Electric Ventilating Co., Chicago, Ill.
Jaden Mfg. Co., Inc., F., Hastings, Nebr.
King Ventilating Co., Owatonna, Minn.
Lakeside Co., Hermansville, Mich.
MaGirl Foundry & Furnace Works, P. H., Bloomington, Ill.
Nelson Corp., Herman, Moline, Ill.
New York Blower Co., Chicago, Ill.
Niagara Blower Co., New York City.
Robbins & Myers, Inc., Springfield, O.
Schwitzer-Cummins Co., Indianapolis, Ind.
Spencer Turbine Co., Hartford, Conn.
Stilphen Engineering & Mfg. Co., C. A., Denver, Colo.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
Torrington Mfg. Co., Sterling, Ill.
Western Blower Co., Seattle, Wash.
Wing Mfg. Co., L. J., New York City.

FANS, VENTILATING, PROPELLER TYPE

FANS, VENTILATING, PROPELLER TYPE

American Blower Corp., Detroit, Mich.
Autovent Fan & Blower Co., Chicago, Ill.
Barret Regulation Engineers Co., Inc., Cleveland Heights, O.
Bayley Blower Co., Milwaukee, Wis.
Bedard Mfg. Co., Minneapolis, Minn.
Bishop & Babcock Sales Co., Cleveland, O.
Buffalo Forge Co., Buffalo, N. Y.
Campbell Companies, E. K., Kansas City, Mo.
Campbell Heating Co., Des Moines, Ia.
Century Electric Co., St. Louis, Mo.
Champion Blower & Forge Co., Lancaster, Pa.
Clarage Fan Co., Kalamazoo, Mich.
Clay Equipment Corp., Cedar Falls, Ia.
De Bothezat Impeller Co., Inc., New York City.
Diehl Mfg. Co., Elizabethport, N. J.
Electrovent Fan & Mfg. Co., Chicago, Ill.
Emerson Blectric Mfg. Co., St. Louis, Mo.
Forct-Air Co., Rockford, Ill.
Garden City Fan Co., Chicago, Ill.
Garden City Fan Co., Chicago, Ill.
General Blower Co., Vineland, N. J.
Green Foundry & Furnace Works, Des Moines, Ia.
Hartzell Propeller Fan Co., Piqua, O.
Hudson Mfg. Co., H. D., Minneapolis, Minn.
Ilg Electric Ventilating Co., Chicago, Ill.
International Engineering, Inc., Dayton, O.
Johnston Co., Wm. W., Dayton, O.
King Ventilating Co., Owatonna, Minn.
Meier Electric & Machine Co., Indlanapolis, Ind.
Montag Stove & Furnace Works, Portland, Ore.
Myers Electric Co., Pittsburgh, Pa.
Nelson Corp., Herman, Moline, Ill.
New York Blower Co., Chicago, Ill.
Perkins & Son, Inc., B. F., Holyoke, Mass.
Pryne & Co., Inc., Los Angeles, Cal.
Robbins & Myers, Inc., Springfield, O.
Robinson Heating & Ventilating Corp., Massillon, O.
Russell Electric Co., Chicago, Ill.
Schwitzer-Cummins Co., Indianapolis, Ind.
Spraco, Inc., Somerville, Mass.
Stilphen Engineering & Mfg. Co., C. A., Denver, Colo.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
Super-Fan Mfg. Co., Trorington, Conn.
Typhoon Air Conditioning Co., Inc., New York City.
Universal Blower Co., Siemingham, Mich.
Victor Electric Products, Inc., Cincinnati, O.
Wagner Electric Corp., St. Louis, Mo.
Western Rotary Ventilator Co., Inc., Los Angeles, Cal.
Wing Mfg. Co., L. J., New York City.

FASTENING CLIPS FOR ROOFING

See Clips, Fastening for Roofing

FAUCETS. BEER

Allen Corp., Detroit, Mich.
Bastian-Blessing Co., Chicago, Ill.
Beverage Industries Corp., Detroit, Mich.
Bishop & Babcock Sales Co., Cleveland, O.
Brew Tapping Apparatus, Inc., New York City.
Central Brass Mfg. Co., Cleveland, O.
Detroit Torch & Mfg. Co., Detroit, Mich.
Farnan Brass Works Co., Cleveland, O.
Globe Brass Mfg. Co., Cleveland, O.
Haydenville Brass Co., Haydenville, Mass.
Kitson Co., Philadelphna, Pa.
Morrison Bros Co., Dubuque, Ia.
Perkes Co., Charles, Philadelphia, Pa.
Philips, Inc., Karl, New York City.
Red Hed Mfg. Co., Boston, Mass.
Wheaton Brass Works, A. W., Newark, N. J.

FILTERS, AIR, FURNACE

American Air Filter Co., Inc., Louisville, Ky.
American Foundry & Furnace Co., Bloomington, Ill.
American Radiator Co., New York City.
Ames Co., W. R., San Francisco, Cal.
Coppus Engineering Corp., Worcester, Mass.
Excelsior Stove & Mfg. Co., Quincy, Ill.
Filtaire Corp., Milwaukee, Wis.
Gehri & Co., A., Tacoma, Wash.
Hugo Mfg. Co., Duluth, Minn.
Humidity Control Co., Tacoma, Wash.
Independent Air Filter Co., Chicago, Ill.
Kleenaire Filter Co., Stevens Point, Wis.
Meyer Furnace Co., Peorla, Ill.
Owens-Illinois Glass Co., Toledo, O.
Russell Electric Co., Chicago, Ill.
Somers Air Filter Sales Co., Detroit, Mich.
Staynew Filter Corp., Rochester, N. Y.
Surface Combustion Corp., Toledo, O.
Tuttle Air Filter Co., Inc., Louisville, Ky.

FILTERS, AIR, VENTILATION

American Air Filter Co., Inc., Louisville, Ky.
American Foundry & Furnace Co., Bloomington, Ill.
Burgess Battery Co., Madison, Wis.
Consolidated Air Conditioning Corp., New York City.
Coppus Engineering Corp., Worcester, Mass.
Filtaire Corp., Milwaukee, Wis.
Greene Gas Cleaner Co., Cleveland, O.
Hugo Mfg. Co., Duluth, Minn.
Humidity Control Co., Tacoma, Wash.
Independent Air Filter Co., Chicago, Ill.
Kleenaire Filter Co., Stevens Point, Wis.
Owens-Illinois Glass Co., Toledo, O.
Russell Electric Co., Chicago, Ill.
Somers Air Filter Sales Co., Detroit, Mich.
Staynew Filter Corp., Rochester, N. Y.
Tuttle Air Filter Co., Inc., Lousiville, Ky.

FIRE DOORS

See Doors and Shutters, Fire

FIRING TOOLS

See Tools, Firing

FITTNGS AND ACCESSORIES, CONDUCTOR (Elbows, Hangers, Heads, Hooks, Shoes, Strainers, Straps, etc.)

(Elbows, Hangers, Heads, Hooks, Shoes, Strainers, Straps, etc.)

Barnes Metal Products Co., Chicago, Ill.

Berger Bros. Co., Philadelphia, Pa.

Berger Co., L. D., Philadelphia, Pa.

Bergstrom Mfg. Co., Neenah, Wis.

Braden Mfg. Co., Terre Haute, Ind.

Chase Brass & Copper Co., Waterbury, Conn.

Cincinnati Sheet Metal & Roofing Co., Cincinnati, O.

Crary Mfg. Co., Middleport, O. (Cut-off.)

Danzer Metal Works, Inc., Hagerstown, Md.

Dieckmann Co., Ferdinand, Cincinnati, O.

Downs-Smith Brass & Copper Co., Long Island City, N. Y.

Edwards Mfg. Co., Inc., Cincinnati, O.

Jelliff Mfg. Corp., C. O., Southport, Conn.

Klauer Mfg. Co., Dubuque, Ia.

La Crosse Steel Roofing & Corrugating Co., La Crosse, Wis.

Lamb & Ritchie Co., Cambridge, Mass.

Lyon, Conklin & Co., Inc., Baltimore, Md.

Milcor Steel Co., Milwaukee, Wis.

National Lead Co., New York City (Lead).

New York Iron Roofing & Corrugating Co., Jersey City, N. J.

Norman Sheet Metal Mfg. Co., W. F., Nevada, Mo.

Obdyke, Inc., Benjamin P., Philadelphia, Pa.

Osborn Co., J. M. & L. A., Cleveland, O.

Perkes Co., Charles, Philadelphia, Pa.

Republic Steel Corp., Youngstown, O.

Rival Strap Corp., New York City.

St. Paul Corrugating Co., St. Paul, Minn.

Schoedinger, F. O., Columbus, O.

Stewart Co., O. S., Cleveland, O. (Downspout Protectors).

Wall Mfg. Supply Co., P., Pittsburgh, Pa.

Watson Co., Inc., Jas. H., Bradley, Ill. Wheeling Corrugating Co., Wheeling, W. Va. Wheeling Metal & Mfg. Co., Wheeling, W. Va.

FITTINGS AND ACCESSORIES, EAVES TROUGH AND GUTTER

Abbott Mfg. Co., Painesville, O. (Hangers.)
Ames Co., W. R., San Francisco, Cal.
Barnes Metal Products Co., Chicago, Ill.
Berger Co., L. D., Philadelphia, Pa.
Bergstrom Mfg. Co., Neenah, Wis.
Braden Mfg. Co., Terre Haute, Ind. (Mitres.)
California Cornice Works, Inc., Los Angeles, Cal.
Chase Brass & Copper Co., Waterbury, Conn.
Cincinnati Sheet Metal & Roofing Co., Cincinnati, O.
Danzer Metal Works, Inc., Hagerstown, Md.
Downs-Smith Brass & Copper Co., Long Island City, N. Y.
Edwards Mfg. Co., Inc., Cincinnati, O.
Heartley Machine & Tool Co., Toledo, O. (Hangers.)
Klauer Mfg. Co., Dubuque, Ia.
La Crosse Steel Roofing & Corrugating Co., La Crosse, Wis.
Lamb & Ritchie Co., Cambridge, Mass.
Lyman Co., H. B., Southampton, Mass.
Lyon, Conklin & Co., Inc., Baltimore, Md.
Milcor Steel Co., Milwaukee, Wis.
Miller & Doing, Inc., Brooklyn, N. Y.
New Delphos Mfg. Co., Delphos, O.
New York Iron Roofing & Corrugating Co., Jersey City, N. J.
Norman Sheet Metal Mfg. Co., W. F., Nevada, Mo.
Obdyke, Inc., Benjamin P., Philadelphia, Pa.
Ohio Wire Products Co., Dover, O. (Hangers.)
Osborn Co., J. M. & L. A., Cleveland, O.
Republic Steel Corp., Youngstown, O.
St. Paul Corrugating Co., St. Paul, Minn.
Schoedinger, F. O., Columbus, O.
Tiffin Art Metal Co., Tiffin, O.
Watson Co., Inc., Jas. H., Bradley, Ill.
Wheeling Corrugating Co., Wheeling, W. Va.
Wheeling Metal & Mfg. Co., Los Angeles, Cal.

FITTINGS AND ACCESSORIES, FURNACE PIPE

See Pipe, Furnace, Fittings and Accessories

FITTINGS AND ACCESSORIES, SMOKE PIPE

Bardes Range & Foundry Co., E. H., Cincinnati, O. Berger Co., L. D., Philadelphia, Pa. Bergstrom Mfg. Co., Neenah, Wis.
Cincinnati Sheet Metal & Roofing Co., Cincinnati, O. Cincinnati Sheet Metal & Roofing Co., Cincinnati, O. Cincinnati Sheet Metal & Roofing Co., Cincinnati, O. Danzer Metal Works, Inc., Hagerstown, Md.
Detroit Safety Furnace Pipe Co., Detroit, Mich. Excelsior Steet Furnuace Co., Chicago, Ill.
Excelsior Stove & Mfg. Co., Quincy, Ill.
Galva Heater Co., Galva, Ill.
Granite Slate Oil Burners, Manchester, N. H.
Harold Furnace Mfg. Co., Spokane, Wash.
Henry Furnace & Foundry Co., Cleveland, O.
Hess Warming & Ventilating Co., Chicago, Ill.
Howes Co., S. M., Charlestown, Mass.
International Heater Co., Utlca, N. Y.
Johnson Co., Inc., Chas., Peorla, Ill.
La Crosse Steel Roofing & Corrugating Co., La Crosse, Wis.
Lamneck Products, Inc., Columbus, O.
Lennox Furnace Co., Marshalltown, Ia.
Lyman Co., H. B., Southampton, Mass.
Maple City Furnace Co., Monmouth, Ill.
Marshall Furnace Co., Marshall, Mich.
Meyer & Bro. Co., F., Peoria, Ill.
Milcor Steel Co., Milwaukee, Wis.
Mueller Furnace Co., L. J., Milwaukee, Wis.
Osborn Co., J. M. & L. A., Cleveland, O.
Peerless Foundry Co., Inc., Indianapolis, Ind.
Republic Steel Corp., Youngstown, O.
Schoedinger, F. O., Columbus, O.
Standard Furnace & Supply Co., Omaha, Nebr.
Tierney Rotor Ventilator Co., Minneapolis, Minn.
Tiffin Art Metal Co., Tiffin, O.
U. S. Register Co., Battle Creek, Mich.
Ward Co., H. H., Chester, Pa.
Waterloo Register Co., Waterloo, Ia.
Watson Co., Inc., Jas H., Bradley, Ill.
Western Steel Products Co., New Duluth, Minn.
Wilder Metal Co., Niles, O.
Williamson Heater Co., Cincinnati, O.

FITTINGS AND ACCESSORIES, STOVE PIPE

Ames Co., W. R., San Francisco, Cal.
Bardes Range & Foundry Co., E. H., Cincinnati, O.
Berger Co., L. D., Philadelphia, Pa.
Eclipse Metal Mfg. Co., Eden, N. Y.
Edwards Mfg. Co., Inc., Cincinnati, O.
Excelsior Steel Furnace Co., Chicago, Ill.
Excelsior Stove & Mfg. Co., Quincy, Ill.
Granite Slate Oil Burners, Manchester, N. H.
Harold Furniture Mfg. Co., Spokane, Wash.
Howes Co., S. M., Charlestown, Mass.
Lyman Co., H. B., Southampton, Mass.
Maple City Furnace Co., Monmouth, Ill.
Meyer & Bro. Co., F., Peoria, Ill.

Milcor Steel Co., Milwaukee, Wis.
Osborn Co., J. M. & L. A., Cleveland, O.
Peerless Foundry Co., Inc., Indianapolis, Ind.
Republic Steel Corp., Youngstown, O.
Schoedinger, F. O., Columbus, O.
Tierney Rotor Ventilator Co., Minneapolis, Minn.
Wheeling Corrugating Co., Wheeling, W. Va.
Wilder Metal Co., Niles, O.

FITTINGS, BLOW PIPE (Elbows, Flanges, Hangers, Joints, Rings, Tubing)

(Elbows, Flanges, Hangers, Joints, Rings, Tubing)

Airtherm Mfg. Co., St. Louis, Mo.
Brundage Co., Kalamazoo, Mich.
Danzer Metal Works, Inc., Hagerstown, Md.
Falstrom Co., Passaic, N. J.
Goethel Co., Alfred C., Milwaukee, Wis.
Grand Rapids Blow Pipe & Dust Arrester Co., Grand Rapids,
Mich.
Kirk & Blum Mfg. Co., Cincinnati, O.
Lake Erie Engineering Corp., Buffalo, N. Y.
Lee & Son Co., Thomas, Cincinnati, O.
Lyman Co., H. B., Southampton, Mass.
MaGirl Foundry & Furnace Works, P. H., Bloomington, Ill.
Niagara Blower Co., New York City.
Western Blower Co., Seattle, Wash.
Young & Bertke Co., Cincinnati, O.

FITTINGS, HUMIDIFIER, WATER LINE

Automatic Humidifier Co., Cedar Falls, Ia. Ottinger, Walter J., Cleveland, O. Sallada Mfg. Co., Minneapolis, Minn. Skuttle Co., J. L., Dowagiac, Mich. Universal Humidifier Co., Detroit, Mich.

FLANGES, BLOW PIPE See Fittings, Blow Pipe FLASHING HOOKS

See Hooks, Flashing

FLASHINGS, ROOF

FLASHINGS, ROOF

American Brass Co., Waterbury, Conn.
American Rolling Mill Co., Middletown, O.
Ames Co., W. R., San Francisco, Cal.
Barnes Metal Products Co., Chicago, Ill.
Barrett Co., New York City.
Butler Mfg. Co., Kansas City, Mo.
California Cornice Works, Inc., Los Angeles, Cal.
Carey Co., Philip, Lockland, O.
Chase Brass & Copper Co., Waterbury, Conn.
Cheney Co., Winchester, Mass.
Cincinnati Sheet Metal & Roofing Co., Cincinnati, O.
Continental Steel Corp., Kokomo, Ind.
Cork Insulation Co., New York City.
Danzer Metal Works, Inc., Hagerstown, Md.
Downs-Smith Brass & Copper Co., Long Island City, N. Y.
Edwards Mfg. Co., Inc., Cincinnati, O.
Figge Co., Chicago, Ill.
Fingles, Inc., W. A., Baltimore, Md.
Follansbee Brothers Co., Pittsburgh, Pa.
General Sheet Metal Works, Inc., Bridgeport, Conn.
Globe Iron Roofing & Corrugating Co., Cincinnati, O.
Herrmann & Grace Co., Brooklyn, N. Y.
Hussey & Co., C. G., Pittsburgh, Pa. (Copper.)
International Steel Co., Evansville, Ind.
Johns-Manville Sales Corp., New York City.
Koppers Products Co., Pittsburgh, Pa.
Martin Metal Mfg. Co., Wichita, Kan.
Milcor Steel Co., Milwaukee, Wis.
National Lead Co., New York City. (Lead.)
New Delphos Mfg. Co., Delphos, O.
Norman Sheet Metal Mfg. Co., W. F., Nevada, Mo.
Osborn Co., J. M. & L. A., Cleveland, O.
Perkinson & Brown, Chicago, Ill.
Reeves Mfg. Co., Dover, O.
Republic Steel Corp., Youngstown, O.
Revere Copper & Brass, Inc., New York City.
Robertson Co., H. H., Pittsburgh, Pa.
Rochester Lead Works, Rochester, N. Y.
St. Paul Corrugating Co., St. Paul, Minn.
Schoedinger, F. O., Columbus, O.
Southbridge Roofing Co., Inc., Southbridge, Mass.
Standard Rolling Mills, Inc., Brooklyn, N. Y.
Tierney Rotor Ventilator Co., Minneapolis, Minn.
Tiffin Art Metal Co., Tiffin, O.
Van Noorden Co., E., Boston, Mass.
Wheeling Corrugating Co., Wrethyur, Conn.

FLASHINGS, WALL

American Brass Co., Waterbury, Conn.
American Rolling Mill Co., Middletown, O.
Ames Co., W. R., San Francisco, Cal.
Barnes Metal Products Co., Chicago, Ill.
California Cornice Works, Inc., Los Angeles, Cal.
Cheney Co., Winchester, Mass.
Cincinnati Sheet Metal & Roofing Co., Cincinnati, O.
Danzer Metal Works, Inc., Hagerstown, Md.
Downs-Smith Brass & Copper Co., Long Island City, N. Y.
Edwards Mfg. Co., Inc., Cincinnati, O.

Figge Co., Chicago, Ill.
Fingles, Inc., W. A., Baltimore, Md.
Follansbee Brothers Co., Pittsburgh, Pa.
General Sheet Metal Works, Inc., Bridgeport, Conn.
Globe Iron Roofing & Corrugating Co., Cincinnati, O.
Herrmann & Grace Co., Brooklyn, N. Y.
International Steel Co., Evansville, Ind.
Johns-Manville Sales Corp., New York City.
Kuhnla, Inc., August, Brooklyn, N. Y.
Martin Metal Mfg. Co., Wichita, Kan.
Milcor Steel Co., Milwaukee, Wis.
New Delphos Mfg. Co., Delphos, O.
Norman Sheet Metal Mfg. Co., W. F., Nevada, Mo.
Osborn Co., J. M. & L. A., Cleveland, O.
Perkinson & Brown, Chicago, Ill.
Reeves Mfg. Co., Dover, O.
Republic Steel Corp., Youngstown, O.
Robertson Co., H. H., Pittsburgh, Pa.
St. Paul Corrugating Co., St. Paul, Minn.
Schoedinger, F. O., Columbus, O.
Southbridge Roofing Co., Inc., Southbridge, Mass.
Tiffin Art Metal Co., Tiffin, O.
Van Noorden Co., E., Boston, Mass.
Ward Co., H. H., Chester, Pa.
York Corrugating Co., York, Pa.

FLOOR FURNACES

See Furnaces, Floor

FLOORING, FABRICATED METAL

American Rolling Mill Co., Middletown, O. Cincinnati Mfg. Co., Cincinnati, O.
Hendrick Mfg. Co., Carbondale, Pa.
Milcor Steel Co., Milwaukee, Wis.
Robertson Co., H. H., Pittsburgh, Pa.
Truscon Steel Co., Youngstown, O.
Wickwire Spencer Steel Corp., New York City.

FLUX, SOLDERING

Air Reduction Sales Co., New York City.
Aluminum Co. of America, Pittsburgh, Pa.
American Solder & Flux Co., Philadelphia, Pa.
Belmont Smelting & Refining Works, Inc., Brooklyn, N. Y.
Osborn Co., J. M., & L. A., Cleveland, O.
Pfanstiehl Chemical Co., Waukegan, Ill.
Ruby Chemical Co., Columbus, O.
Smith Welding Equipment Corp., Minneapolis, Minn.
Torchweld Equipment Co., Chicago, Ill.

FOOT VALVES, OIL

See Burner, Oil, Accessories

FORCED DRAFT BLOWERS

See Blowers, Forced Draft

FORMING MACHINERY, COLD ROLL

See Machinery, Cold Roll Forming

FURNACE BLOWERS

See Blowers, Furnace

FURNACE BRUSHES

See Brushes, Furnace

FURNACE CEMENT

See Cement, Furnace

FURNACE CHAIN

See Chain, Furnace

FURNACE COVERING

See Covering, Furnace and Pipe

FURNACE DOOR HANDLES

See Handles, Furnace Door

FURNACE FANS

See Fans, Furnace, Propeller Type

FURNACE FILTERS

See Filters, Air, Furnace

FURNACE HUMIDIFIERS

See Humidifiers, Furnace, Automatic and Washer Types

FURNACE PIPE See Pipe, Furnace, Fittings and Accessories

FURNACE PULLEYS

See Pulleys, Furnace

FURNACE REGULATORS

See Regulators, Furnace, Draft, Automatic and Manual

URNACE REPAIRS

See Repairs, Stove and Furnace

FURNACE VACUUM CLEANERS

See Cleaners, Furnace, Vacuum

FURNACES, AIR CONDITIONING

(Self-contained furnace-fan-filter-humidifier unit)

FURNACES, AIR CONDITIONING

[Self-contained furnace-fan-filter-humidifier unit]

Air Conditioning Engineering Co., Cambridge, Mass. American Foundry & Furnace Co., Bloomington, Ill. American Furnace Co., St. Louis, Mo. Ames Co., W. R., San Francisco, Cal. Armstrong Furnace Co., Columbus, O. Baker Furnace & Cleaner Mg. Co., Toledo, O. Bryan Flumbing & Heating Co., Bryan, O. Bryant Corp., C. L., Cleveland, O. Bryant Corp., C. L., Cleveland, O. Bryant Corp., C. L., Cleveland, O. Bryant Heating Co., Des Molnes, Ia. Cornell Heating Co., Des Molnes, Ia. Carrier Mg. J. Co., Campbell Heating Co., Des Molnes, Ia. Cornell Heating Co., Des Molnes, Ia. Cox Mg. Co., Abram. Lansdale, Pa. Dail Steel Products Co., Lansing, Mich. Dowagiac Steel Furnace Co., Dowagiac, Mich. Edwards Mg. Co., Lon., Clincinnatl, O. Electrogas Furnace & Mfg. Co., San Francisco, Cal. Enterprise Boiler & Tank Works, Chicago, Ill. Evans Corp., George, Moline, Ill. Excelsior Stove & Mfg. Co., Quincey, Ill. Farris Furnace Co., Springfield, Ill. Favorite Stove & Range Co., Piqua, O. Forest City Foundries Co., Cleveland, O. Fox Furnace Co., Elyria, O. Green Foundry & Furnace Works, Des Moines, Ia. Hall-Neal Furnace Co., Indianapolis, Ind. Henry Furnace & Foundry Co., Cleveland, O. Hess Warming & Ventilating Co., Chicago, Ill. Holland Furnace Co., Holland, Mich. Meppendence Stove & Furnace Co., Ind., N. Y. Koons Engineering Co., Danville, Ill. Kruse Co., Inc., Indianapolis, Ind. Lennox Furnace Co., Marshalltown, Ia. Liberty Foundry Co., St. Louis, Mo. MaGirl Foundry & Furnace Works, P. H., Bloomington, Ill. Midland Furnace Co., Marshalltown, Ia. Liberty Foundry Co., St. Louis, Mo. MaGirl Foundry & Furnace Works, P. H., Bloomington, Ill. Midland Furnace Co., Marshall, Mich. Meyer Furnace Co., Columbus, O. Motor Wheel Corp., Lansing, Mich. Meyer Furnace Co., Columbus, O. Motor Wheel Corp., Lansing, Mich. Meyer Furnace Co., Columbus, O. Motor Wheel Corp., Lansing, Mich. Meyer Furnace Co., Columbus, O. O. Porciand Stove Co., Columbus, O. Motor Medicand Coll. Re

FURNACES, FLOOR

FURNACES, FLOOR

Aladdin Heating Corp., Oakland, Cal.
Atlas Heating & Ventilating Co., San Francisco, Cal.
Beck Engineering Combustion Kompany, St. Louis, Mo.
Cocking, Geo. J., Santa Ana, Cal.
Coleman Lamp & Stove Co., Wichita, Kan.
Electrogas Furnace & Mfg. Co., San Francisco, Cal.
Enterprise Foundry Co., Belleville, Ill.
Falco Furnace Co., San Francisco, Cal.
Foss Heating & Engineering Co., Pasadena, Cal.
Fraser Furnace Co., Stockton, Cal.
Johnston Gas Furnace Corp., Los Angeles, Cal.
Little Burner Co., Inc., H. C., San Rafael, Cal.
Miller Floor Furnace Co., Oakland, Cal.
Mt. Vernon Furnace & Mfg. Co., Mt. Vernon, Ill.
Payne Furnace & Supply Co., Beverly Hills, Cal.
Pennsylvania Furnace & Iron Co., Warren, Pa.
Security Stove & Mfg. Co., Kansas City, Mo.
Standard Furnace & Supply Co., Omaha, Nebr.
Ward Heater Co., Ltd., Los Angeles, Cal.

FURNACES, SOLDERING

Bernz Co., Inc., Otto, Rochester, N. Y. Burgess Soldering Furnace Co., Columbus, O.

Clayton & Lambert Mfg. Co., Detroit, Mich. Diener Mfg. Co., Geo. W., Chicago, Ill. Hones, Inc., Charles A., Baldwin, N. Y. Johnson Gas Appliance Co., Cedar Rapids, Ia. Liquefled Gas Appliance Co., Mars, Pa. Pennsylvania Furnace & Iron Co., Warren, Pa. Red Devil Mfg. Co., Bellwood, Ill. Roper Corp., Geo. D., Rockford, Ill. Turner Brass Works, Sycamore, Ill. Unique Mfg. Co., Inc., Chicago, Ill. Wall Mfg. Supply Co., P., Pittsburgh, Pa. Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

FURNACES, WARM AIR, COAL BURNING, CAST

FURNACES, WARM AIR, COAL BURNING, CAST IRON
Agricola Furnace Co., Inc., Gadsden, Ala.
Airtherm Mfg. Co., St. Louis, Mo.
American Foundry & Furnace Co., Bloomington, Ill.
American Furnace Co., St. Louis, Mo.
Ander Range & Furnace Corp., Geneva, N. Y.
Bergstrom Mfg. Co., Newn York City.
Bergstrom Mfg. Co., Neenab, Wis.
Boynton Furnace Co., Fernace, Corp., Geneva, N. Y.
Bergstrom Mfg. Co., Denville, Pa.
Dayton Casting Co., Dayton, O.
Cox Mfg. Corp., Abram, Lansdale, Pa.
Dayton Casting Co., Dayton, O.
Dayton Casting Co., Dayton, O.
Edwards Furnace Co., Wellsboro, Pa.
Emrich Co., C., Columbus, O.
Enterprise Foundry Co., Belleville, Ill.
Excelsior Steel Furnace Co., Chicago, Ill.
Excelsior Steel Furnace Co., Chicago, Ill.
Excelsior Steel Furnace Co., Chicago, Ill.
Farris Furnace Co., Springfield, Ill.
Farris Furnace Co., Springfield, Ill.
Farris Furnace Co., Cheveland, O.
Floral City Heater Co., Morroe, Mich.
Floyd-Wells Co., Royersford, Pa.
Foote Foundry Co., J. B., Fredericktown, O.
Forest City Foundries Co., Cleveland, O.
Forset City Foundries Co., Cleveland, O.
Fox Furnace Co., Elyria, O.
Fuller-Warren Co., Milwaukee, Wis.
Geme City Stove Co., Erg., Pa.
Germer Stove Co., Erg., Pa.
Germer Stove Co., Erg., Pa.
Germer Stove Co., Co., Co., Worth, O.
Germer Stove Co., Co., Co., Utica, N. Y.
Hart Mfg. Co., Louisville, Ky.
Henry Furnace & Foundry Co., Cleveland, O.
Hess-Snyder Co., Massillion, O.
Holland Furnace Co., Holland, Mich.
Hart & Crouse Co., Holland, Mich.
Home Stove Co., Elyland, Mich.
Home Stove Co., Columbia, Pa.
Kelsey Heating Co., Synacuse, N. Y.
Klein Stove Co., Deltroit, Mich.
Miller Ranger Co., Holland, Mich.
Home Stove Co., Columbia, Pa.
Kelsey Heating Co., Synacuse, N. Y.
Klein Stove Co., Polland, Mich.
Home Stove Co., Columbia, Pa.
Kelsey Heating Co., Synacuse, N. Y.
Klein Stove Co., Polland, O.
McPherson Furnace & Mfg

Spear Stove & Heating Co., James, Philadelphia, Pa. Standard Foundry & Furnace Co., De Kalb, Ill. Standard Furnace & Supply Co., Omaha, Nebr. Star Furnace & Foundry Co., Evansville, Ind. Summit Foundry Co., Geneva, N. Y. Thatcher Co., Newark, N. J. Thiele Co., L. C., Indianapolis, Ind. Tubular Heating & Ventilating Co., Philadelphia, Pa. Twentieth Century Heating & Ventilating Co., Philadelphia, Pa. Twentieth Century Heating & Ventilating Co., Akron, O. Union Mfg. Co., Inc., Boyertown, Pa. Walker & Pratt Mfg. Co., Boston, Mass. Washington Stove Works, Everett, Wash. Western Furnaces, Inc., Tacoma, Wash. Westwick & Son, Inc., John, Galena, Ill. White-Warner Co., Taunton, Mass. Williamson Heater Co., Cincinnati, O. Wise Furnace Co., Akron, O. XXth Century Heating & Ventilating Co., Akron, O.

FURNACES, WARM AIR, COAL BURNING, STEEL

Wise Furnace Co., Akron, O.

FURNACES, WARM AIR, COAL BURNING, STEEL

Arcweid Mfg. Co., Inc., Seattle, Wash.
American Foundry & Furnace Co., Bloomington, Ill.
American Furnace & Furnace Co., Bloomington, Ill.
American Furnace & Foundry Co., Milan, Mich. (Combination Cast Iron & Steel.)

American Furnace Co., Columbus, O.
American Furnace Co., Columbus, O.
Armstrong Furnace Co., Columbus, O.
Brown Sheet Iron & Steel Co., St. Paul, Minn.
Bryant Corp., C. L., Cleveland, O.
Campbell Companies, E. K., Kansas City, Mo.
Campbell Heating Co., Des Moines, Jowa.
Cary Mfg. Co., Waupaca, Wis.
Comstock-Castle Stove Co., Quincy, Ill.
Dail Steel Products Co., Lansing, Mich.
Daniels Mfg. Co., Inc., Sam, Hardwick, V.
Daniels Mfg. Co., Inc., Sam, Hardwick, V.
Daniels Mfg. Co., Inc., Sam, Hardwick, V.
Daniels Mfg. Co., Inc., Sam, Hardwick, O.
Detroit Michigan Stove Co., Detroit, Mich.
Dowagiac Steel Furnace Co., Dowagiac, Mich.
Enterprise Boller & Tank Wks., Chicago, Ill.
Excelsior Steel Furnace Co., Chicago, Ill.
Excelsior Steel Furnace Co., Chicago, Ill.
Excelsior Steel Furnace Co., Wilmington, O.
Favorite Stove & Range Co., Piqua, O.
Fox Furnace Co., Wilmington, O.
Favorite Stove & Range Co., Piqua, O.
Fox Furnace Co., Elyria, O.
Gehri & Co., A., Tacoma, Wanapolis, Ind.
Hart Mannfacturing Co., Louisville, Ky.
Henry Furnace & Foundry Co., Cleveland, O.
Hess-Sarder Co., Massillon, O.
Hess-Warming & Ventilating Co., Chicago, Ill.
Home Stove Co., Indianapolis, Ind.
International Heater Co., Utica, N. Y.
Iowa Foundry Co., Sloux City, Ia.
Kelsey Heating Co., Stracuse, N. Y.
Iowa Foundry Co., St. Louis, Mo.
Majestic Co., Huntington, Ind.
Mchigan Tank & Galvanizing Co., Detroit, Mich.
Midland Furnace Co., Foundry Co., Co., Morney, Ind.
Mchigan Tank & Galvanizing Co., Detroit, Mich.
Michigan Tank & Galvanizing Co., Detroit, Mich.
Michigan Tank & Galvanizing Co., Oetroit, Mich.
Mchigan Tank & Ga

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FURNACES, WARM AIR, GAS AUXILIARY, CAST IRON

Forest City Foundries Co., Cleveland, O. Forest City Foundries Co., Cleveland, O.
Germer Stove Co., Erie, Pa.
Henry Furnace & Foundry Co., Cleveland, O.
Liberty Foundry Co., St. Louis, Mo.
MaGirl Foundry & Furnace Works, P. H., Bloomington, Ill.
Mt. Vernon Furnace & Mfg. Co., Mt. Vernon, Ill.
Ottinger, Walter J., Cleveland, O.
Pacific Gas Radiator Co., Huntington Park, Cal.
Scott-Newcomb, Inc., St. Louis, Mo.
Wise Furnace Co., Akron, O.

FURNACES, WARM AIR, GAS AUXLIARY, STEEL

Calkins & Pearce, Columbus, O.
Forest City Foundries Co., Cleveland, O.
Liberty Foundry Co., St. Louis, Mo.
Mt. Vernon Furnace & Mfg. Co., Mt. Vernon, Ill.
Robinson Heating & Ventilating Corp., Massillon, O.
Scientific Heater Co., Cleveland, O.
Security Stove & Mfg. Co., Kansas City, Mo.
Thomas & Armstrong Co., London, O.
XXth Century Heating & Ventilating Co., Akron, O.

FURNACES, WARM AIR, GAS BURNING, CAST IRON

FURNACES, WARM AIR, GAS BURNING, CAST IRON

American Foundry & Furnace Co., Bloomington, Ill.

American Furnace Co., St. Louis, Mo.

Atlas Heating & Ventilating Co., San Francisco, Cal.

Biyant Heater Co., Cleveland, O.

Forest City Foundries Co., Cleveland, O.

Fox Furnace Co., Elyria, O.

Green Foundry & Furnace Works, Des Moines, Iowa.

Hart Mfg. Co., Louisville, Ky.

Henry Furnace & Foundry Co., Cleveland, O.

Johnston Gas Furnace Corp., Los Angeles, Cal.

Kelsey Heating Co., Syracuse, N. Y.

MaGirl Foundry & Furnace Works, P. H., Bloomington, Ill.

Mueller Furnace Co., L. J., Milwaukee, Wis.

Ottinger, Walter J., Cleveland, O.

Pacific Gas Radiator Co., Huntington Park, Cal.

Reznor Mfg. Co., Mercer, Pa.

Roper Corp., Geo. D., Rockford, Ill.

Rudy Furnace Co., Dowagiac, Mich.

St. Louis Heating Co., St. Louis, Mo.

Standard Furnace & Supply Co., Omaha, Nebr.

Wise Furnace Co., Akron, O.

FURNACES, WARM AIR, GAS BURNING, STEEL

FURNACES, WARM AIR, GAS BURNING, ST
Aladdin Heating Corp., Oakland, Cal.
Ames Co., W. R., San Francisco, Cal.
Armstrong Furnace Co., Columbus, O.
Bryant Corp., C. L., Cleveland, O.
Burmester Gas Furnace Mfg. Co., Omaha, Nebr.
Calkins & Pearce, Columbus, O.
Cocking, Geo. J., Santa Ana, Cal.
Columbus Heating & Ventilating Co., Columbus, O.
Dall Steel Products Co., Lansing, Mich.
Edwards Mfg. Co., Inc., Cincinnati, O.
Electrogas Furnace & Mfg. Co., San Franc'sco, Cal.
Falco Furnace Co., San Francisco, Cal.
Forest City Foundries Co., Cleveland, O.
Foss Heating & Engineering Co., Pasadena, Cal.
Fraser Furnace Co., Stockton, Cal.
Ideal Furnace Co., Detroit, Mich.
Johnston Gas Furnace Corp., Los Angeles, Cal.
Kelsey Heating Co., Syracuse, N. Y.
Lennox Furnace Co., Marshalltown, Ia.
Meyer Furnace Co., Columbus, O.
Mueller Furnace Co., L. J., Milwaukee, Wis.
Payne Furnace & Supply Co., Beverly Hills, Cal.
Pennsylvania Furnace & Iron Co. Warren, Pa.
Premier Warm Air Heater Co., Dowaglac, Mich.
Reznor Mfg. Co., Mercer, Pa. Pennsylvania Furnace & Iron Co., Warren, Pa. Premier Warm Air Heater Co., Dowagiac, Mich. Reznor Mfg. Co., Mercer, Pa. Robinson Heating & Ventilating Corp., Massillon, O. Round Oak Furnace Co., Dowagiac, Mich. Scientific Heater Co., Cleveland, O. Security Stove & Mfg. Co., Kansas City, Mo. Standard Furnace & Supply Co., Omaha, Nebr. Surface Combustion Corp., Toledo, O. Texo Heater & Mfg. Corp., Covington, Ky. Thompson Mfg. Co., Denver, Colo. Twentieth Century Heating & Ventilating Co., Akron, O. Ward Heater Co., Ltd., Los Angeles, Cal. Waterman-Waterbury Co., Minneapolis, Minn. Western Steel Products Co., New Duluth, Minn. XXth Century Heating & Ventilating Co., Akron, O.

FURNACES, WARM AIR, GAS OR OIL BURNING, CAST IRON

Chandler Co., Cedar Rapids, Ia.
Cox Mfg. Corp., Lansdale, Pa.
Forest City Foundries Co., Cleveland, O.
Fox Furnace Co., Elyria, O.
Green Foundry & Furnace Works, Des Moines, Ia.

Holland Furnace Co., Holland, Mich.
International Heater Co., Utica, N. Y.
Kelsey Heating Co., Syracuse, N. Y.
MaGirl Foundry & Furnace Works, P. H., Bloomington, Ill.
Mueller Furnace Co., L. J., Milwaukee, Wis.
Nugent & Co., Thos., New York City (Cast & Wrought).
Richardson & Boynton Co., New York City.
Rudy Furnace Co., Dowagiac, Mich.
Scott-Newcomb, Inc., St. Louis, Mo.
Spear Stove & Heating Co., James, Philadelphia, Pa.
Thatcher Co., Newark, N. J.
Westwick & Son, Inc., John, Galena, Ill.

FURNACES, WARM AIR, GAS OR OIL BURNING,

FURNACES, WARM AIR, GAS OR OIL BURN STEEL

American Foundry & Furnace Co., Bloomington, Ill. Armstrong Furnace Co., Columbus, O. Baker Furnace & Cleaner Mfg. Co., Toledo, O. Brown Sheet Iron & Steel Co., St. Paul, Minn. Bryant Corp., C. L., Cleveland, O. Campbell Heating Co., Des Moines, Ia. Dail Steel Products Co., Lansing, Mich. Dowagiac Steel Furnace Co., Dowagiac, Mich. Economy Baler Co., Ann Arbor, Mich. Enterprise Boiler & Tank Works, Chicago, Ill. Evans Corp., George, Moline, Ill. Fox Furnace Co., Elyria, O. Hall-Neal Furnace Co., Indianapolis, Ind. Henry Furnace & Foundry Co., Cleveland, O. Hess Warming & Ventilating Co., Chicago, Ill. Home Stove Co., Indianapolis, Ind. Ideal Furnace Co., Datroit, Mich. International Heater Co., Utica, N. Y. Kelsey Heating Co., Syracuse, N. Y. Koons Engineering Co., Danville, Ill. Kruse Co., Inc., Indianapolis, Ind. Kruse & Dewenter Co., Indianapolis, Ind. Lennox Furnace Co., Marshalltown, Ia. Liberty Foundry Co., St. Louis, Mo. Majestic Furnace Co., Seattle, Wash. Meyer Furnace Co., Peoria, Ill. Michigan Tank & Gâlvanizing Co., Detroit, Mich. Midland Furnace Co., Columbus, O. Milwaukee Welded Steel Corp., Milwaukee, Wis. Montag Stove & Furnace Works, Portland, Ore. Mueller Furnace Co., L. J., Milwaukee, Wis. Nelson Corp., Herman, Moline, Ill. Pacific Gas Radiator Co., Huntington Park, Cal. Pennsylvania Engineering Works, New Castle, Pa. Pennsylvania Furnace & Mg. Co., Cedar Grove, Wis. Scott-Newcomb, Inc

FURNACES, WARM AIR, HORIZONTAL

American Foundry & Furnace Co., Bloomington, Ill. (Cast American Foundary
Iron).

Arcweld Mfg. Co., Inc., Seattle, Wash. (Steel).

Campbell Heating Co., Des Moines, Ia. (Steel).

Evans Corp., Geo., Moline, Ill. (Steel).

Hess Warming & Ventilating Co., Chicago, Ill. (Steel).

MaGirl Foundry & Furnace Works, P. H., Bloomington, Ill.

(Cast Iron). Moncrief Furnace Co., Atlanta, Ga. (Cast Iron.)
Mueller Furnace Co., L. J., Milwaukee, Wis. (Cast Iron.)
Twentieth Century Heating & Ventilating Co., Akron, O.

FURNACES, WARM AIR, OIL BURNING, CAST IRON

(Combination Furnace and Burner Unit)

Chandler Co., Cedar Rapids, Ia. Favorite Stove & Range Co., Piqua, O. Green Foundry & Furnace Works, Des Moines, Ia.

FURNACES, WARM AIR, OIL BURNING, STEEL

(Combination Furnace and Burner Unit)

Combination Furnace and burner Unity
Bryan Plumbing & Heating Co., Bryan, O.
Cary Mfg. Co., Waupaca, Wis.
Edwards Mfg. Co., Inc., Cincinnati, O.
Favorite Stove & Range Co., Piqua, O.
Ingle Mfg. Co., San Diego, Cal.
Little Burner Co., Inc., H. C., San Rafael, Cal.
Motor Wheel Corp., Lansing, Mich.
Perfection Stove Co., Cleveland, O.
Wood Hydraulic Hoist & Body Co., Detroit, Mich.

FURNACES, WARM AIR, PIPELESS, CAST IRON

FURNACES, WARM AIR, PIPELESS, CAST IRON
Agricola Furnace Co., Inc., Gadsden, Ala.
American Foundry & Furnace Co., Bloomington, Ill.
American Furnace & Foundry Co., Milan, Mich.
Andes Range & Furnace Corp., Geneva, N. Y.
Boynton Furnace Co., New York City.
Brillion Furnace Co., Cedar Rapids, Ia.
Detroit-Michigan Stove Co., Detroit, Mich.
Edwards Furnace Co., Chicago, Ill.
Excelsior Steel Furnace Co., Chicago, Ill.
Excelsior Steel Furnace Co., Chicago, Ill.
Excelsior Steel Furnace Co., Chicago, Ill.
Excelsior Stove & Mfg. Co., Quincy, Ill.
Faultless Heater Corp., Cleveland, O.
Favorite Stove & Range Co., Piqua, O.
Floral City Heater Co., Monroe, Mich.
Floyd-Wells Co., Royersford, Pa.
Forest City Foundries Co., Cleveland, O.
Genwood Range Co., Taunton, Mass.
Green Foundry & Furnace Works, Des Moines, Ia.
Harold Furnace Mfg. Co., Spokane, Wash.
Hart Mfg. Co., Louisville, Ky.
Hart Mfg. Co., Louisville, Ky.
Henry Furnace & Foundry Co., Cleveland, O.
Home Stove Co., Indianapolis, Ind.
Ideal Furnace Go., Chicy, Independence, Mo.
International Heater Co., Utica, N. Y.
Johnston Gas Furnace Corp., Los Angeles, Cal. (Gas).
Kalamazoo Stove Co., Kalamazoo, Mich.
Keeley Stove Co., Columbia, Pa.
Kelsey Heating Co., Syracuse, N. Y.
Klein Stove Co., Philadelphia, Pa.
Liberty Foundry Co., St. Louis, Mo.
MaGiri Foundry & Furnace Works, P. H., Blomington, Ill.
Mayle City Furnace Co., Monnouth, Ill.
Mayle City Furnace, Co., Monnouth, Ill.
Mayle City Furnace, Co., Monnouth, Ill.
Mayle Co., J. M. & L. A., Cleveland, O.
Portand Stove Foundry Co.,

FURNACES, WARM AIR, PIPELESS, STEEL

Aladdin Heating Corp., Oakland, Cal.
American Furnace & Furnace Co., Bloomington, Ill.
American Furnace & Foundry Co., Milan, Mich.
Arcweld Mfg. Co., Inc., Seattle, Wash.
Armstrong Furnace Co., Columbus, O.
Campbell Heating Co., Des Moines, Ia.
Daniels Mfg. Co., Inc., Sam, Hardwick, Vt.
Detroit Michigan Stove Co., Detroit, Mich.
Dowagiac Steel Furnace Co., Dowagiac, Mich.
Enterprise Boiler & Tank Wks., Chicago, Ill.
Falco Furnace Co., San Francisco, Cal.
Gehri & Co., A., Tacoma, Wash.
Hall-Neal Furnace Co., Indianapolis, Ind.
Hart Mfg. Co., Louisville, Ky.
Henry Furnace & Foundry Co., Cleveland, O.
Hess Warming & Ventilating Co., Chicago, Ill.

Home Stove Co., Indianapolis, Ind.
Ideal Furnace Co., Detroit, Mich.
International Heater Co., Utica, N. Y.
Kelsey Heating Co., Syracuse, N. Y.
Klein Stove Co., Philadelphia, Pa.
Lennox Furnace Co., Marshalltown, Ia.
Liberty Foundry Co., St. Louis, Mo.
Majestic Furnace Co., Seattle, Wash.
May-Fiebeger Co., Newark, O.
Michigan Tank & Galvanizing Co., Detroit, Mich.
Midland Furnace Co., Columbus, O.
Milwaukee Welded Steel Corp., Milwaukee, Wis.
Montag Stove & Furnace Works, Portland, Ore.
Mueller Furnace Co., L. J., Milwaukee, Wis.
Orbon Stove Co., Belleville, Ill.
Osborn Co., J. M. & L. A., Cleveland, O.
Pacific Gas Radiator Co., Huntington Park, Cal.
Peerless Foundry Co., Inc., Indianapolis, Ind.
Pennsylvania Furnace & Iron Co., Warren, Pa.
Portland Stove Foundry Co., Portland, Me.
Premier Warm Air Heater Co., Dowagiac, Mich.
Reznor Mfg. Co., Mercer, Pa. (Gas).
Robinson Heating & Ventilating Corp., Massillon, O.
Rosebraugh Co., W. W., Salem, Ore.
Schill Mfg. Co., Crestline, O.
Thomas & Armstrong Co., London, O.
U. S. Pressed Steel Products Co., Kalamazoo, Mich.
Ward Heater Co., Ltd., Los Angeles, Cal.
Waterman-Waterbury Co., Minneapolis, Minn.
Western Steel Products Co., New Duluth, Minn.

GAGES, DRAFT

Bacharach Industral Instrument Co., Pittsburgh, Pa.
Bailey Meter Co., Cleveland, O.
Bristol Co., Waterbury, Conn.
Brown Instrument Co., Philadelphia, Pa.
Consolidated Ashcroft Hancock Co., Inc., Bridgeport, Conn.
Ellison Draft Gage Co., Chicago, Ill.
Foxboro Co., Foxboro, Mass.
Friez & Sons, Inc., Julien P., Baltimore, Md.
Hays Corp., Michigan City, Ind.
Hill Co., E. Vernon, Chicago, Ill.
Moeller Instrument Co., Brooklyn, N. Y.
Precision Thermometer & Instrument Co., Philadelphia, Pa.
Republic Flow Meters Co., Chicago, Ill.
Uehling Instrument Co., Paterson, N. J.

GAGES, OIL BURNER See Burner, Oil, Accessories **GALVANNEALED SHEETS** See Sheets, Galvannealed

GARAGES, PORTABLE

Architectural Metal Products Co., Cincinnati, O. Biersach & Niedermeyer Co., Milwaukee, Wis. Columbian Steel Tank Co., Kansas City, Mo. Edwards Mfg. Co., Inc., Cincinnati, O. International Steel Co., Evansville, Ind. Marion Machine Foundry & Supply Co., Marion, Ind. Martin Steel Products Co., Mansfield, O. Mesker & Co., Geo. L., Evansville, Ind. Northfield Iron Co., Northfield, Minn. St. Paul Corrugating Co., St. Paul, Minn. Thomas & Armstrong Co., London, O. Truscon Steel Co., Youngstown, O. Western Steel Products Co., New Duluth, Minn. Western Steel Products Co., New Duluth, Minn.

GAS AUXILIARY FURNACES

See Furnaces, Warm Air, Gas Auxiliary

GAS BURNER CONTROLS

See Controls, Gas Burner

GAS BURNERS

See Burners, Gas, Conversion

GAS BURNING WARM AIR FURNACES See Furnaces, Warm Air, Gas Burning

GAS OR OIL BURNING FURNACES

See Furnaces, Warm Air, Gas or Oil Burning

GAS PRESSURE REGULATING VALVES

See Valves, Gas Pressure Regulating

GATES, BLAST

See Blast Gates **GRAVITY ROOF VENTILATORS**

See Ventilators, Roof, Gravity

GRILLES, HEATING AND VENTILATING

Aluminum Co. of America, Pittsburgh, Pa. Auer Register Co., Cleveland, O. Beckley Perforating Co., Garwood, N. J. Best Register Co., Milwaukee, Wis.

Betz Unit Air Cooler Co., Kansas City, Mo.
Campbell Companies, E. K., Kansas City, Mo.
Campbell Heating Co., Des Moines, Ia.
Cheney Bigelow Wire Works, Springfield, Mass.
Chicago Perforating Co., Chicago, Ill.
Cincinnati Mfg. Co., Cincinnati, O.
Cross Engineering Co., Carbondale, Pa.
Diamond Mfg. Co., Wyoming, Pa.
Edwards Mfg. Co., Inc., Cincinnati, O.
Erdle Perforating Co., Rochester, N. Y.
Estey Bros. Co., Brooklyn, N. Y.
Gate City Iron Works, Omaha, Nebr.
Guth Co., Edwin F., St. Louis, Mo.
Harrington & King Perforating Co., Chicago, Ill.
Hart & Cooley Mfg. Co., Chicago, Ill.
Hendrick Mfg. Co., Carbondale, Pa.
Independent Register & Mfg. Co., Cleveland, O.
Johnston & Chapman Co., Chicago, Ill.
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.
Metalace Corp., South Boston, Mass.
Mundt & Sons, Charles, Jersey City, N. J.
Newman Brothers, Inc., Cincinnati, O.
Springman Metal Specialty Co., Detroit, Mich.
Standard Stamping & Perforating Co., Chicago, Ill.
Symonds Register Co., St. Louis, Mo.
Tuttle & Balley, Inc., New Britain, Conn.
Typhoon Air Conditioning Co., Inc., New York City.
U. S. Register Co., Battle Creek, Mich.
Western Blower Co., Seattle, Wash.
Western Wire & Iron Works, Inc., Chicago, Ill.
Wooster Art Wood, Inc., Wooster, O.

GUARDS, MACHINE

Biersach & Niedermeyer Co., Milwaukee, Wis. Central Wire & Iron Works, Des Moines, Ia. Harrington & King Perforating Co., Chicago, Ill.

GUARDS, SNOW

Berger Bros. Co., Philadelphia, Pa.
Berger Co., L. D., Philadelphia, Pa.
Chase Brass & Copper Co., Waterbury, Conn.
Cheney Bigelow Wire Works, Springfield, Mass.
Danzer Metal Works, Inc., Hagerstown, Md.
Downs-Smith Brass & Copper Co., Long Island City, N. Y.
Estey Bros. Cc., Brooklyn, N. Y.
Folsom Snow Guard Co., Boston, Mass.
Knickerbocker Slate Corp., New York City.
Levow, David, New York City.
Mohawk Asphalt Heater Co., Frankfort, N. Y.
Southbridge Roofing Co., Inc., Southbridge, Mass.
Wheeling Metal & Mfg. Co., Wheeling, W. Va.

GUTTER FITTINGS

See Fittings and Accessories, Eaves Trough and Gutter

GUTTERS

See Eaves Trough and Gutters

HAND PUNCHES

See Punches, Hand

HAND SHEARS

See Snips and Shears, Bench and Hand

HANDLES, BOILER

Bardes Range & Foundry Co., E. H., Cincinnati, O. Berger Co., L. D., Philadelphia, Pa. Fanner Mfg. Co., Cleveland, O. Stover Mfg. & Engine Co., Freeport, III.

HANDLES, FURNACE DOOR

Bardes Range & Foundry Co., E. H., Cincinnati, O. Fanner Mfg. Co., Cleveland, O. Grand Rapids Die & Tool Co., Grand Rapids, Mich. Maple City Furnace Co., Monmouth, Ill. Parker-Kalon Corp., New York City. Stover Mfg. & Engine Co., Freeport, Ill.

HANDLES, SOLDERING IRON

Bardes Range & Foundry Co., E. H., Cincinnati, O. Bernz Co., Inc., Otto, Rochester, N. Y. Clendenin Bros., Baltimore, Md. Parker-Kalon Corp., New York City. Unique Mfg. Co., Inc., Chicago, Ill. Warren Handle Works Co., Cortland, O.

HANGER RINGS, BLOW PIPE

See Fittings, Blow Pipe

HARDENED MASONRY NAILS

ee Nails, Hardened Masonr

HARDENED SCREW NAILS

See Nails, Screw, Hardened

HEADS, CONDUCTOR

See Fittings and Accessories, Conductor

HEAT TRANSFER SURFACE

See Surface, Heat Transfer

HEATERS, CABINET

HEATERS, CABINET

Arcweld Mfg. Co., Inc., Seattle, Wash.
Automatic Burner Corp., Chicago, Ill. (Oil Burning).
Bryant Heater Co., Cleveland, O.
Continental Stove Corp., Ironton, O. (Gas).
Eagle Foundry Co., Belleville, Ill.
Emrich Co., C., Columbus, O.
Excelsior Stove & Mfg. Co., Quincy, Ill.
Favorite Stove & Range Co., Piqua, O.
Florence Stove Co., Gardner, Mass.
Floyd-Wells Co., Royersford, Pa.
Fox Furnace Co., Elyria, O.
Gem City Stove Co., Dayton, O.
Glenwood Range Co., Taunton, Mass.
Hart Mfg. Co., Louisville, Ky.
Hayes Custer Stove Co., Bloomington, Ill.
Home Stove Co., Indianapolis, Ind.
Independence Stove & Furnace Co., Independence, Mo.
Keeley Stove Co., Philadelphia, Pa.
Little Burner Co., Inc., H. C., San Rafael, Cal.
Midland Furnace Co., Columbus, O.
Montag Stove & Furnace Works, Portland, Ore.
Moore Brothers Co., Jollet, Ill.
Motor Wheel Corp., Lansing, Mich.
Mt. Vernon Furnace & Mfg. Co., Mt. Vernon, Ill.
Nesbitt, Inc., John J., Philadelphia, Pa.
Oakland Foundry Co., Belleville, Ill. (Gas Burning).
Orbon Stove Co., Belleville, Ill.
Ottinger, Walter J., Cleveland, O.
Pacific Gas Radiator Co., Huntington Park, Cal.
Perfection Stove Co., Cleveland, O.
Pacific Gas Radiator Co., Huntington Park, Cal.
Perfection Stove Co., Cleveland, O.
Portland Stove Foundry Co., Portland, Me.
Premier Warm Air Heater Co., Dowagiac, Mich.
Quaker Mfg. Co., Chicago, Ill. (Oil Burning).
Reznor Mfg. Co., Chicago, Ill. (Oil Burning).
Reznor Mfg. Co., Mercer, Pa.
Schoedinger, F. O., Columbus, O.
Security Stove & Mfg. Co., Kansas City, Mo.
Texo Heater & Mfg. Corp., Covington, Ky.
Union Mfg. Co., Inc., Boyertown, Pa.
Union Stove Works, New York City.
Viking Mfg. Co., Baltimore, Md.
Ward Heater Co., Ltd., Los Angeles, Cal.
Waterman-Waterbury Co., Minneapolis, Minn.
Western Blower Co., Seattle, Wash.

HEATERS AND KETTLES, ROOFERS'

All States Roofers Equipment & Material Co., Chicago, Ill. Bardes Range & Foundry Co., E. H., Cincinnati, O. Berger Co., L. D., Philadelphia, Pa. Hauck Mfg. Co., Brooklyn, N. Y. Hendrick Mfg. Co., Carbondale, Pa. Hudson Mfg. Co., H. D., Minneapolis, Minn. Littleford Bros., Cincinnati, O. Mohawk Asphalt Heater Co., Frankfort, N. Y. Southbridge Roofing Co., Inc., Southbridge, Mass. Ward Co., H. H., Chester, Pa.

HEATERS, SCHOOL ROOM

HEATERS, SCHOOL ROOM

American Foundry & Furnace Co., Bloomington, Ill. American Furnace & Foundry Co., Milan, Mich. Baker Furnace & Cleaner Mfg. Co., Toledo, O. Boynton Furnace Co., New York City. Comstock-Castle Stove Co., Quincy, Ill. Cox Mfg. Corp., Abram, Lansdale, Pa. Daniels Mfg. Co., Inc., Sam, Hardwick, Vt. Dowagiac Steel Furnace Co., Dowagiac, Mich. Emrich Co., C. Columbus, O. Estate Stove Co., Hamilton, O. Excelsior Stove & Mfg. Co., Quincy, Ill. Favorite Stove & Range Co., Piqua, O. Floral City Heater Co., Monroe, Mich. Forest City Foundries Co., Cleveland, O. Geme City Stove Co., Dayton, O. Green Foundry & Furnace Works, Des Moines, Ia. Hall-Neal Furnace Co., Indianapolis, Ind. Harold Furnace Mfg. Co., Spokane, Wash. Hart Mfg. Co., Louisville, Ky. Henry Furnace & Foundry Co., Cleveland, O. Hess-Snyder Co., Massillon, O. Hess-Snyder Co., Massillon, O. Hess Warming & Ventilating Co., Chicago, Ill. Home Furnace Co., Indianapolis, Ind. International Heater Co., Utica, N. Y. Keeley Stove Co., Columbia, Pa. Kelsey Heating Co., Syracuse, N. Y. Koons Engineering Co., Danville, Ill. Lennox Furnace Co., Marshalltown, Ia. Liberty Foundry Co., St. Louis, Mo. MaGirl Foundry & Furnace Works, P. H., Bloomington, Ill.

Maple City Furnace Co., Monmouth, Ill.
Marshall Furnace Co., Marshall, Mich.
May-Flebeger Co., Newark, O.
Michigan Tank & Galvanizing Co., Detroit, Mich.
Moncrief Furnace Co., Atlanta, Ga.
Montag Stove & Furnace Works, Portland, Ore.
Moore Brothers Co., Joliet, Ill.
Mt. Vernon Furnace & Mfg. Co., Mt. Vernon, Ill.
Mueller Furnace Co., L. J., Milwaukee, Wis.
Nelson Corp., Herman, Moline, Ill.
Nesbitt, Inc., John J., Philadelphia, Pa.
Orbon Stove Co., Belleville, Ill.
Ottinger, Walter J., Cleveland, O.
Pacific Gas Radiator Co., Huntington Park, Cal.
Peerless Foundry Co., Inc., Indianapolis, Ind.
Perfection Stove Co., Cleveland, O.
Pittston Stove Co., Pittston, Pa.
Portland Stove Foundry Co., Portland, Me.
Premier Warm Air Heater Co., Dowagiac, Mich.
Reznor Mfg. Co., Mercer, Pa.
Round Oak Furnace Co., Dowagiac, Mich.
St. Clair Foundry Corp., Centralia, Ill.
Security Stove & Mfg. Co., Kansas City, Mo.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
Surface Combustion Corp., Toledo, O.
Thatcher Co., Newark, N. J.
Twentieth Century Heating & Ventilating Co., Akron, O.
Union Mfg. Co., Inc., Boyertown, Pa.
Union Stove Works, New York City.
Waterman-Waterbury Co., Minneapolis, Minn.
Western Blower Co., Seattle, Wash.
Western Steel Products Co., New Duluth, Minn.
Wise Furnace Co., Akron, O.
XXth Century Heating & Ventilating Co., Akron, O.

HEATERS, WATER, FIRE POT COIL

HEATERS, WATER, FIRE POT COIL

Cox Mfg. Corp., Abram, Lansdale, Pa.
Deshler Foundry & Machine Wks., Deshler, O.
Excelsior Stove & Mfg. Co., Quincy, Ill.
Excelso Products Corp., Buffalo, N. Y.
Globe Machinery & Supply Co., Des Moines, Ia.
Ideal Furnace Co., Detroit, Mich.
Independence Stove & Furnace Co., Independence, Mo.
International Heater Co., Utica, N. Y.
Keeley Stove Co., Columbia, Pa.
Liberty Foundry Co., St. Louis, Mo.
Motor Wheel Corp., Lansing, Mich.
Mt. Vernon Furnace & Mfg. Co., Mt. Vernon, Ill.
Mueller Furnace Co., L. J., Milwaukee, Wis.
Orbon Stove Co., Belleville, Ill.
Production Plating Works, Lebanon, O.
Rudy Furnace Co., Dowagiac, Mich.
Schwab Sons Co., R. J., Milwaukee, Wis.
Standard Foundry & Furnace Co., De Kalb, Ill.
Viking Mfg. Co., Baltimore, Md.

HEATERS, WATER, SMOKE STACK

Marcus Smoke Stack Water Heater, Union City, N. J.

HEATING CONTROLS

See Controls, Heating, Ventilating & Air Conditioning Systems

HOLLOW METAL DOORS

See Doors, Hollow Metal

HOLLOW METAL WINDOWS

See Windows, Hollow Metal

HOODS AND SWEEPS, BLOW PIPE

HOODS AND SWEEPS, BLOW PIPE

Airtherm Mfg. Co., St. Louis, Mo.
Brundage Co., Kalamazoo, Mich.
Danzer Metal Works, Inc., Hagerstown, Md.
Falstrom Co., Passaic, N. J.
Goethel Co., Alfred C., Milwaukee, Wis.
Grand Rapids Blow Pipe & Dust Arrester Co., Grand Rapids, Mich.
Kirk & Blum Mfg. Co., Cincinnati, O.
Lake Erie Engineering Corp., Buffalo, N. Y.
Lee & Son Co., Thomas, Cincinnati, O.
Lyman Co., H. B., Southampton, Mass.
Niagara Blower Co., New York City.
Pennsylvania Furnace & Iron Co., Warren, Pa.
Western Blower Co., Seattle, Wash.
Young & Bertke Co., Cincinnati, O.

HOOKS, FLASHING

Berger Bros. Co., Philadelphia, Pa.
Berger Co., L. D., Philadelphia, Pa.
Danzer Metal Works, Inc., Hagerstown, Md.
Edwards Mfg. Co., Inc., Cincinnati, O.
Klauer Mfg. Co., Dubuque, Ia.
Wheeling Corrugating Co., Wheeling, W. Va.

HORIZONTAL FURNACES

See Furnaces, Warm Air, Horizontal

HUMIDIFIER FITTINGS

See Fittings, Humidifier, Water Line

HUMIDIFIERS, FURNACE, AUTOMATIC

HUMIDIFIERS, FURNACE, AUTOMATIC

Air Conditioning Engineering Co., Cambridge, Mass. American Foundry & Furnace Co., Bloomington, Ill. Automatic Humidifier Co., Cedar Falls, Ia.

Bedard Mfg. Co., Minneapolis, Minn.
Bryant Corp., C. L., Cleveland, O.
Burnham Boiler Corp., Irvington, N. Y.
Clarm Mechanical Devices Co., Lima, O.
Columbus Humidifier Co., Columbus, O.
Fox Furnace Co., Elyria, O.
General Humidifier Co., Rochester, N. Y.
Health-o-Mist Humidifier Mfg. Co., Columbus, Wis.
Heetrozone Corp., Minneapolis, Minn.
Hess Warming & Ventilating Co., Chicago, Ill.
Holland Furnace Co., Holland, Mich.
Ilg Electric Ventilating Co., Chicago, Ill.
Iowa Foundry Co., Sioux City, Ia.
Kansas City Furnace Co., Kansas City, Mo.
Kelsey Heating Co., Syracuse, N. Y.
King Ventilating Co., Owatonna, Minn.
Kraker, Henry, Holland, Mich.
Meyer & Bro. Co., F., Peoria, Ill.
Nugent Sons, Inc., Thos., New York City.
Ottinger, Walter J., Cleveland, O.
Pennsylvania Furnace & Iron Co., Warren, Pa.
Roper Corp., Geo. D., Rockford, Ill.
Rudy Furnace Co., Dowagiac, Mich.
Sallada Mfg. Co., Minneapolis, Minn.
Sheer Co., H. M., Quincy, Ill.
Skuttle Co., J. L., Dowagiac, Mich.
Spear Stove & Heating Co., James, Philadelphia, Pa.
Supreme Electric Products Corp., Rochester, N. Y.
Surface Combustion Corp., Toledo, O.
Thiele Co., L. C., Indianapolis, Ind.
U. S. Pressed Steel Products Co., Kalamazoo, Mich.
Universal Humidifier Co., Dietroit, Mich.
Weyl & Weyl Development Engineers, Dearborn, Mich.
Williamson Heater Co., Cincinnati, O.
Wisconsin Humidifier Co., Milwaukee, Wis.

HUMIDIFIERS, FURNACE, WASHER

HUMIDIFIERS, FURNACE, WASHER

Air Conditioning Engineering Co., Cambridge, Mass. American Foundry & Furnace Co., Bloomington, Ill. Brundage Co., Kalamazoo, Mich. Economy Baler Co., Ann Arbor, Mich. Emerson Elec. Mfg. Co., St. Louis, Mo. Fingles, Inc., W. A., Baltimore, Md. Gehri & Co., A., Tacoma, Wash. Handelan Washed Air Co., Minneapolis, Minn. Heetrozone Corporation, Minneapolis, Minn. Hess Warming & Ventilating Co., Chicago, Ill. Hill Co., E. Vernon, Chicago, Ill. Holland Furnace Co., Holland, Mich. Ilg Electric Ventilating Co., Chicago, Ill. Jaden Mfg. Co., Inc., F., Hastings, Nebr. Kelsey Heating Co., Syracuse, N. Y. Lakeside Co., Hermansville, Mich. Meyer Furnace Co., Peoria, Ill. Mueller Furnace Co., L. J., Milwaukee, Wis. Premier Warm Air Heater Co., Dowagiac, Mich. Redi Automatic Coal Burners, Inc., Spokane, Wash. Somers, Inc., H. J., Detroit, Mich. Sturtevant Co., B. F., Hyde Park, Boston, Mass. U. S. Air Conditioning Corp., Minneapolis, Minn. Watt Mfg. Co., Sterling, Ill. Western Blower Co., Seattle, Wash.

HUMIDITY CONTROLS See Controls, Humidity

INDICATING INSTRUMENTS

See Instruments, Indicating

INDUSTRIAL STOKERS

See Stokers, Industrial

INSTRUMENTS, INDICATING

Bristol Co., Waterbury, Conn.
Brown Instrument Co., Philadelphia, Pa. (Hygrometers, Thermometers, etc.).

Thermometers, etc.).

Consolidated Ashcroft Hancock Co., Inc., Bridgeport, Conn. (Thermometers).

Ellison Draft Gage Co., Chicago, Ill. (Gages, Analyzers).

Fee & Stemwedel, Inc., Chicago, Ill. (Air Condition In-

Fee & Stemwedel, Inc., Chicago, Ill. (Air Condition Indicator).
Foxboro Co., Foxboro, Mass. (Thermometers—Indicating & Recording, Psychrometers).
Friez & Sons, Inc., Julien P., Baltimore, Md. (Anemometers, Psychrometers, Thermometers, etc.).
Hill Co., E. Vernon, Chicago, Ill. (Anemometers, Hygrometers, Manometers, Pitot Tubes, Psychrometers).
Johnson Tool Co., East Providence, R. I. (Air Condition Indicator). dicator).

Marsh Corp., Jas. P., Chicago, Ill. (Gages, Thermometers).
Moeller Instrument Co., Brooklyn, N. Y. (Hygrometers,

Thermometers).

Newport Specialty Co., Pawtucket, R. I. (Hygrometers).

Practical Instrument Co., Chicago, III. (Thermometers-Re-

Precision Thermometer & Instrument Co., Philadelphia, Pa.
(Barometers, Hydrometers, Hygrometers, Orsats, Psychrometers, Thermometers).
Republic Flow Meters Co., Chicago, Ill.
Rochester Mfg. Co., Inc., Rochester, N. Y. (Thermometers).
Stone, Junius H., New York City. (Thermometers).
Tagliabue Mfg. Co., C. J., Brooklyn, N. Y. (Thermometers, Hygrometers).

Hygrometers).
Taylor Instrument Companies, Rochester, N. Y. (Anemometers, Hygrometers, Thermometers). Uehling Instrument Co., Paterson, N. J.

INSULATION, BEER COOLER

Alfol Insulation Co., New York City.
Armstrong Cork & Insulation Co., Lancaster, Pa.
Cork Insulation Co., New York City.
Creo-Dipt Co., Inc., N. Tonawanda, N. Y.
General Insulating & Mfg. Co., Alexandria, Ind.
Hill & Co., Inc., C. V., Trenton, N. J.
Insulite Co., Minneapolis, Minn.
Johns-Manville Sales Corp., New York City.
Keasbey & Mattison Co., Ambler, Pa.
Masonite Corp., Chicago, Ill.
Mundet Cork Corp., New York City.
Philips, Inc., Karl, New York City.
Reynolds Metals Co., New York City.
Smith & Kanzler, Inc., Elizabeth, N. J.
Standard Asbestos Mfg. Co., Chicago, Ill.
United Cork Companies, Lyndhurst, N. J.
Union Fibre Co., Inc., Winona, Minn.
Wood Conversion Co., Cloquet, Minn. Alfol Insulation Co., New York City.

INSULATION, DUCT

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Armstrong Cork & Insulation Co., Lancaster, Pa.
Burgess Battery Co., Madison, Wis. (Sound Deadening).
Cabot Sons, Inc., Samuel, Boston, Mass.
Cork Import Corp., New York City.
Cork Insulation Co., New York City.
Ehret Magnesia Mfg. Co., Valley Forge, Pa.
General Insulating & Mfg. Co., Alexandria, Ind.
Insulite Co., Minneapolis, Minn.
Johns-Manville Sales Corp., New York City.
Keasbey & Mattison Co., Ambler, Pa.
Masonite Corp., Chicago, Ill.
Mineral Felt Co., Toledo, O.
Mundet Cork Corp., New York City.
Norristown Magnesia & Asbestos Co., Norristown, Pa.
Pacific States Felt & Mfg. Co., Inc., San Francisco, Cal.
Reynolds Metals Co., New York City.
Robertson Co., H. H., Pittsburgh, Pa.
Sall Mountain Co., Chicago, Ill.
Smith & Kanzler, Inc., Elizabeth, N. J.
Standard Asbestos Mfg. Co., Chicago, Ill.
Standard Lime & Stone Co., Baltimore, Md.
Truscon Steel Co., Youngstown, O.
Union Fibre Co., Inc., Winona, Minn.
United Cork Companies, Lyndhurst, N. J.
U. S. Mineral Wool Co., New York City.

INSULATION, ROOF

INSULATION, ROOF

Alfol Insulation Co., New York City.
Alton Mineral Wool Co., Alton, Ill.
Armstrong Cork & Insulation Co., Lancaster, Pa.
Bird & Son, Inc., East Walpole, Mass.
Celotex Co., Chicago, Ill.
Certain-teed Products Corp., New York City.
Cork Import Corp., New York City.
Cork Insulation Co., New York City.
Cornell Wood Products Co., Chicago, Ill.
Creo-Dipt Co., Inc., North Tonawanda, N. Y.
Eagle-Picher Lead Co., Cincinnati, O.
Ehret Magnesia Mfg. Co., Valley Forge, Pa.
General Insulating & Mfg. Co., Alexandria, Ind.
Ideal Metal Weather Strip Co., Boulder, Colo.
Insulite Co., Minneapolis, Minn.
Johns-Manville Sales Corp., New York City.
Keasbey & Mattison Co., Ambler, Pa.
Masonite Corp., Chicago, Ill.
Mundet Cork Corp., New York City.
Pacific States Felt & Mfg. Co., Inc., San Francisco, Cal.
Reynolds Metals Co., New York City.
Robertson Co., H. H., Pittsburgh, Pa.
Standard Asbestos Mfg. Co., Chicago, Ill.
Standard Lime & Stone Co., Baltimore, Md.
Union Fibre Co., Inc., Winona, Minn.
United Cork Companies, Lyndhurst, N. J.
Upson Co., Lockport, N. Y.
Wood Conversion Co., Cloquet, Minn.
INSULATION. WALL

INSULATION, WALL

Alfol Insulation Co., New York City.
Alton Mineral Wool Co., Alton, Ill.
Armstrong Cork & Insulation Co., Lancaster, Pa.
Celotex Co., Chicago, Ill.
Certain-teed Products Corp., New York City.
Cork Import Corp., New York City.
Cork Insulation Co., New York City.
Cornell Wood Products Co., Chicago, Ill.

Creo-Dipt Co., Inc., North Tonawanda, N. Y. Eagle-Picher Lead Co., Cincinnati, O. Ehret Magnesia Mfg. Co., Valley Forge, Pa. General Insulating & Mfg. Co., Alexandria, In Ideal Metal Weather Strip Co., Boulder, Colo. Insulite Co., Minneapolis, Minn. Johns-Manville Sales Corp., New York City. Keasbey & Mattison Co., Ambler, Pa. Masonite Corp., Chicago, Ill. Mineral Felt Co., Toledo, O. Mundet Cork Corp., New York City. Reynolds Metals Co., New York City. Reynolds Metals Co., New York City. Robertson Co., H. H., Pittsburgh, Pa. Ruberoid Co., New York City. Sprayo-Flake Co., Milwaukee, Wis. Standard Asbestos Mfg. Co., Chicago, Ill. Standard Lime & Stone Co., Baltimore, Md. Truscon Steel Co., Youngstown, O. Union Fibre Co., Inc., Winona, Minn. United Cork Companies, Lyndhurst, N. J. U. S. Mineral Wool Co., New York City. Upson Co., Lockport, N. Y. Wood Conversion Co., Cloquet, Minn. Wood Fibre Board Co., Inc., New York City.

IRON PLATES See Plates, Iron

IRON RIVETS See Rivets, Brass, Copper and Iron

IRON ROOFING

See Roofing, Iron and Steel

IRON SHEETS

See Sheets, Iron and Steel

IRONS, SOLDERING

See Coppers, Soldering

ISOLATION, SOUND AND VIBRATION

Armstrong Cork & Insulation Co., Lancaster, Pa. Buffalo Forge Co., Buffalo, N. Y. Cork Insulation Co., New York City. General Electric Co., Schenectady, N. Y. Johns-Manville Sales Corp., New York City. Korfund Co., Inc., Long Island City, N. Y. Lord Mfg. Co., Erie, Pa. Ottinger, Walter J., Cleveland, O.

JACKS, LADDER See Brackets and Jacks, Ladder

JOINTS, BLOW PIPE

Airtherm Mfg. Co., St. Louis, Mo.
Brundage Co., Kalamazoo, Mich.
Danzer Metal Works, Inc., Hagerstown, Md.
Falstrom Co., Passaic, N. J.
Goethel Co., Alfred C., Milwaukee, Wis.
Grand Rapids Blow Pipe & Dust Arrester Co., Grand Rapids, Mich,
Kirk & Blum Mfg. Co., Cincinnati, O.
Lake Erie Engineering Corp., Buffalo, N. Y.
Lee & Son Co., Thomas, Cincinnati, O.
Lyman Co., H. B., Southampton, Mass.
Niagara Blower Co., New York City.
Western Blower Co., Seattle, Wash.
Young & Bertke Co., Cincinnati, O.

JOINTS, FURNACE PIPE

See Pipe, Furnace, Fittings and Accessories

KALAMEIN DOORS See Doors, Kalamein

KETTLES, ROOFERS

See Heaters and Kettles, Roofers'

KITCHEN EXHAUST VENTILATORS

See Ventilators, Kitchen Exhaust LADDER BRACKETS AND JACKS

See Brackets and Jacks, Ladder

LADDERS, STEP AND EXTENSION

Berger Bros. Co., Philadelphia, Pa.
Cupples Co., St. Louis, Mo.
Goshen Churn & Ladder Co., Goshen, Ind.
Goshen Mfg. Co., Goshen, Ind.
Tilley Ladders Co., Inc., J. S., Watervliet, N. Y.
Universal Fittings & Scaffolding Co., Blairsville, Pa.

LADLES, METAL MELTING

Bernz Co., Inc., Otto, Rochester, N. Y. Clayton & Lambert Mfg. Co., Detroit, Mich. Everhot Mfg. Co., Maywood, Ill. Johnson, Inc., William, Newark, N. J. Littleford Bros., Cincinnati, O.

Milwaukee Welded Steel Corp., Milwaukee, Wis. Struthers Dunn, Inc., Philadelphia, Pa. Unique Mfg. Co., Inc., Chicago, Ill. Ward Co., H. H., Chester, Pa.

LATH, EXPANDED METAL

Barnes Metal Products Co., Chicago, Ill.
Edwards Mfg. Co., Inc., Cincinnati, O.
International Steel Co., Evansville, Ind.
Kalman Steel Corp., Bethlehem, Pa.
Klauer Mfg. Co., Dubuque, Ia.
Milcor Steel Co., Milwaukee, Wis.
Republic Steel Corp., Youngstown, O.
Reynolds Metals Co., New York City.
Truscon Steel Co., Youngstown, O.
U. S. Gypsum Co., Chicago, Ill.
Wheeling Corrugating Co., Wheeling, W. Va.

LEAD COATED COPPER SHEETS

See Sheets, Copper, Lead Coated

LEAD ROOFING

See Roofing, Lead

LEAD SHEETS See Sheets, Lead

LEADER STRAPS

See Fittings and Accessories, Conductor

LIFTS, SKYLIGHT

Danzer Metal Works, Inc., Hagerstown, Md.
Dayton Greenhouse Mfg. Co., Dayton, O.
Edwards Mfg. Co., Inc., Cincinnati, O.
Hudson Mfg. Co., H. D., Minneapolis, Minn.
Levow, David, New York City.
Lupton's Sons Co., Philadelphia, Pa.
Park City Cornice Works, Inc., Bridgeport, Conn.
Perkinson & Brown, Chicago, Ill.
St. Paul Corrugating Co., St. Paul, Minn.
Schoedinger, F. O., Columbus, O.
Van Noorden Co., E., Boston, Mass.
Weiss & Co., H., New York City.

LIMIT CONTROLS

See Controls, Limit

LOUVRES, VENTILATING

LOUVRES, VENTILATING

American Warming & Ventilating Co., Toledo, O. Ames Co., W. R., San Francisco, Cal.
Arex Co., Chicago, Ill.
Auer Register Co., Cleveland, O.
Biersach & Niedermeyer Co., Milwaukee, Wis.
Bishop & Babcock Sales Co., Cleveland, O.
Brundage Co., Kalamazoo, Mich.
Buffalo Forge Co., Buffalo, N. Y.
Burt Mfg. Co., Akron, O.
Campbell Companies, E. K., Kansas City, Mo.
Champion Blower & Forge Co., Lancaster, Pa.
Clay Equipment Corp., Cedar Falls, Ia.
Danzer Metal Works, Inc., Hagerstown, Md.
Decatur Iron & Steel Co., Decatur, Ala.
Diehl Mfg. Co., Elizabethport, N. J.
Electrovent Fan & Mfg. Co., Chicago, Ill.
Falstrom Co., Passaic, N. J.
General Blower Co., Vineland, N. J.
General Blower Co., Vineland, N. J.
General Sheet Metal Works, Inc., Bridgeport, Conn.
Globe Iron Roofing & Corrugating Co., Cincinnati, O.
Harold Furnace Mfg. Co., Spokane, Wash.
Hart & Cooley Mfg. Co., Chicago, Ill.
Herrmann & Grace Co., Brooklyn, N. Y.
Hudson Mfg. Co., H. D., Minneapolis, Minn.
Ilg Electric Ventilating Co., Chicago, Ill.
Iona Ventilator Co., Inc., Philadelphia, Pa.
Jordan & Co., Paul R., Indianapolis, Ind.
Keasbey & Mattison Co., Ambler, Pa.
King Ventilating Co., Owatonna, Minn.
Kirk & Blum Mfg. Co., Cincinnati, O.
Kleenaire Filter Co., Stevens Point, Wis.
Myers Electric Co., Pitsburgh, Pa.
New York Blower Co., Chicago, Ill.
Norman Sheet Metal Mfg. Co., W. F., Nevada, Mo.
Pennsylvania Ventilating Co., Philadelphia, Pa.
Perkinson & Brown, Chicago, Ill.
Richmond Fireproof Door Co., Richmond, Ind.
Robertson Co., H. H., Pittsburgh, Pa.
Schoedinger, F. O., Columbus, O.
Southbridge Roofing Co., Inc., Southbridge, Mass.
Tiffin Art Metal Co., Tiffin, O.
U. S. Register Co., Beston, Mass.
Ward Co., H. H., Chester, Pa.
Western Blower Co., Seattle, Wash.
Young & Bertke Co., Cincinnati, O.

MACHINE GUARDS

See Guards, Machine

MACHINERY, COLD ROLL FORMING

Allsteel Press Co., Chicago, Ill.
Bertsch & Co., Inc., Cambridge City, Ind.
Farrel-Birmingham Co., Inc., Ansonia, Conn.
Hendley & Whittemore Co., Beloit, Wis.
Kane & Roach, Inc., Syracuse, N. Y.
Lake Erie Engineering Corp., Buffalo, N. Y.
McKinney Tool & Mfg. Co., Cleveland, O.
Quickwork Co., St. Mary's, O.
Streine Tool & Mfg. Co., New Bremen, O.
Yoder Co., Cleveland, O. Yoder Co., Cleveland, O.

MACHINERY, CULVERT

Bertsch & Co., Inc., Cambridge City, Ind. Kane & Roach, Inc., Syracuse, N. Y. New Albany Machine Mfg. Co., New Albany, Ind. New York Iron Roofing & Corrugating Co., Jersey City, N. J. Schatz Mfg. Co., Poughkeepsie, N. Y. Streine Tool & Mfg. Co., New Bremen, O.

MACHINERY, ELBOW MAKING

Bliss Co., E. W., Toledo, O.
Ingels Elbow Machine Corp., Chicago, Ill.
Niagara Machine & Tool Works, Buffalo, N. Y.
Peck, Stow & Wilcox Co., Southington, Conn.
Schatz Mfg. Co., Poughkeepsie, N. Y.
Toledo Machine & Tool Co., Toledo, O.
Wagner, C. Dewitt, Cedar Rapids, Ia.

MACHINERY, STRIP ROLLING

Bliss Co., E. W., Toledo, O.
Farrel-Birmingham Co., Inc., Ansonia, C.
Hendley & Whittemore Co., Beloit, Wis.
Kane & Roach, Inc., Syracuse, N. Y.
Toledo Machine & Tool Co., Toledo, O.
Torrington Mfg. Co., Torrington, Conn.
Yoder Co., Cleveland, O. Ansonia, Conn.

MACHINERY VIBRATION INSULATION

See Isolation, Sound and Vibration

MACHINES, CRIMPING

Bertsch & Co., Inc., Cambridge City, Ind.
Bliss Co., E. W., Toledo, O.
Farrel-Birmingham Co., Inc., Ansonia, Conn.
Hendley & Whittemore Co., Beloit, Wis.
Kane & Roach, Inc., Syracuse, N. Y.
Kohler Mfg. Co., Pittsburgh, Pa.
Lake Erie Engineering Corp., Buffalo, N. Y.
New Albany Machine Mfg. Co., New Albany, Ind.
Niagara Machine & Tool Works, Buffalo, N. Y.
Packham Crimper Co., Mechanicsburg, O.
Peck, Stow & Wilcox Co., Southington, Conn.
Quickwork Co., St. Marys, O.
Schatz Mfg. Co., Poughkeepsie, N. Y.
Streine Tool & Mfg. Co., New Bremen, O.
Swaine Mfg. Co., Fred J., St. Louis, Mo.
Toledo Machine & Tool Co., Toledo, O.
Yoder Co., Cleveland, O. Yoder Co., Cleveland, O.

MACHINES, NIBBLING

Allsteel Press Co., Chicago, Ill.
Beverly Throatless Shear Co., Chicago, Ill.
Campbell, Andrew C., Bridgeport, Conn.
Hendley & Whittemore Co., Beloit, Wis.
Lake Erie Engineering Corp., Buffalo, N. Yels & Co., Inc., Henry, New York City.
Quickwork Co., St. Marys, O.
Rock River Machine Co., Janesville, Wis.
Savage Co., W. J., Knoxville, Tenn.
Schatz Mfg. Co., Poughkeepsie, N. Y.

MACHINES, SEAMING

Bliss Co., E. W., Toledo, O., Callahan Can Machine Co., Inc., Brooklyn, N. Y. Danzer Metal Works, Inc., Hagerstown, Md. Kane & Roach, Inc., Syracuse, N. Y. New Albany Machine Mfg. Co., New Albany, Ind. Niagars Machine & Tool Works, Buffalo, N. Y. Peck, Stow & Wilcox Co., Southington, Conn. Quickwork Co., St. Marys, O. Schatz Mfg. Co., Poughkeepsie, N. Y. Swaine Mfg. Co., Fred J., St. Louis, Mo. Toledo Machine & Tool Co., Toledo, O. Yoder Co., Cleveland, O.

MACHINES, SLITTING

Bertsch & Co., Inc., Cambridge City, Ind. Beverly Throatless Shear Co., Chicago, Ill. Bliss Co., E. W., Toledo, O. Buffalo Forge Co., Buffalo, N. Y. Callahan Can Machine Co., Inc., Brooklyn, N. Y. Hendley & Whittemore Co., Beloit, Wis.

Kane & Roach, Inc., Syracuse, N. Y.
New Albany Machine Mfg. Co., New Albany, Ind.
Niagara Machine & Tool Works, Buffalo, N. Y.
Peck, Stow & Wilcox Co., Southington, Conn.
Quickwork Co., St. Marys, O.
Rock River Machine Co., Janesville, Wis.
Schatz Mfg. Co., Poughkeepsie, N. Y.
Streine Tool & Mfg. Co., New Bremen, O.
Swaine Mfg. Co., Fred J., St. Louis, Mo.
Toledo Machine & Tool Co., Toledo, O.
Torrington Mfg. Co., Torrington, Conn.
Whitney Metal Tool Co., Rockford, Ill.
Yoder Co., Cleveland, O.

MACHINES, WIRING

Bliss Co., E. W., Toledo, O.
Callahan Can Machine Co., Inc., Brooklyn, N. Y.
Niagara Machine & Tool Works, Buffalo, N. Y.
Peck, Stow & Wilcox Co., Southington, Conn.
Quickwork Co., St. Marys, O.
Schatz Mfg. Co., Poughkeepsie, N. Y.
Toledo Machine & Tool Co., Toledo, O.
Yoder Co., Cleveland, O.

MAGNESIA CEMENT

See Cement, Asbestos and Magnesia

MARQUISE

Architectural Metal Products Co., Cincinnati, O. Biersach & Niedermeyer Co., Milwaukee, Wis. California Cornice Works, Inc., Los Angeles, Cal. Cincinnati Mfg. Co., Cincinnati, O. Danzer Metal Works, Inc., Hagerstown, Md. Decatur Iron & Steel Co., Decatur, Ala. Edwards Mfg. Co., Inc., Cincinnati, O. Fingles, Inc., W. A., Baltimore, Md. General Sheet Metal Works, Inc., Bridgeport, Conn. Globe Iron Roofing & Corrugating Co., Cincinnati, O. International Steel Co., Evansville, Ind. Mesker & Co., Geo. L., Evansville, Ind. Meyer & Bro. Co., F., Peoria, Ill. Milcor Steel Co., Milwaukee, Wis. Newman Brothers, Inc., Cincinnati, O. Norman Sheet Metal Mfg. Co., W. F., Nevada, Mo. Perkinson & Brown, Chicago, Ill. St. Paul Corrugating Co., St. Paul, Minn. Schoedinger, F. O., Columbus, O. Tiffin, Art Metal Co., Tiffin, O. Watson Co., Inc., Jas. H., Bradley, Ill. Willis Mfg. Co., Galesburg, Ill. Woolwine Metal Products Co., Los Angeles, Cal. York Corrugating Co., York, Pa. Architectural Metal Products Co., Cincinnati, O.

MASONRY NAILS, HARDENED

See Nails, Hardened Masonry

METAL BUILDINGS

See Buildings, Metal

METAL CEILINGS See Ceilings, Metal

METAL EXPANDED LATH See Lath, Expanded Metal

METAL FABRICATED FLOORING

See Flooring, Fabricated Metal

METAL FACES

See Faces, Cold Air, Metal

METAL MELTING LADLES

See Ladles, Metal Melting

METAL SHINGLES

See Shingles and Tile, Metal

METAL TILE

See Shingles and Tile, Metal

METAL VALLEYS

ee Valleys, Metal

METAL WEATHER STRIPS See Weather Strips, Metal

METAL WORKERS' BRAKES

See Brakes, Metal Workers

METAL WORKERS' TOOLS See Tools, Metal Workers

METALS, PERFORATED, SHEET AND PLATE

Aluminum Company of America, Pittsburgh, Pa. American Nickeloid Co., Peru, Ill. Auer Register Co., Cleveland, O. Beckley Perforating Co., Garwood, N. J. Chase Brass & Copper Co., Waterbury, Conn. Chicago Perforating Co., Chicago, Ill.

Cross Engineering Co., Carbondale, Pa.
Diamond Mfg. Co., Wyoming, Pa.
Erdle Perforating Co., Rochester, N. Y.
Fingles, Inc., W. A., Baltimore, Md.
Harrington & King Perforating Co., Chicago, Ill.
Hendrick Mfg. Co., Carbondale, Pa.
Ingersoll Steel & Disc Co., Chicago, Ill.
Johnston & Chapman Co., Chicago, Ill.
Kirk & Blum Mfg. Co., Cincinnati, O.
Laubenstein Mfg. Co., Ashland, Pa.
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.
Mundt & Sons, Charles, Jersey City, N. J.
New Delphos Mfg. Co., Delphos, O.
Newman Brothers. Inc., Cincinnati, O.
Northfield Iron Co., Northfield, Minn.
Nortmann-Duffke Co., Milwaukee, Wis.
Philips, Inc., Karl, New York City.
Republic Steel Corp., Youngstown, O.
Schoedinger, F. O., Columbus, O.
Standard Stamping & Perforating Co., Chicago, Ill.
Tuttle & Bailey, Inc., New Britain, Conn.
Wilder Metal Co., Niles, O.

MONEL METAL SHEETS

See Sheets, Monel Metal

OP HEADS, ROOFERS'

Capital Mfg. Co., Kingsville, Tex. Cupples Co., St. Louis, Mo. Fisele Mop Mfg. Co., Thos. J., St. Louis, Mo. Levow, David, New York City. Mill Products Co., Elberton, Ga.

MOTORS, DAMPER, ELECTRICAL

Automatic Products Co., Milwaukee, Wis.
Barber-Colman Co., Rockford, Ill.
Bowen Products Corp., Auburn, N. Y.
Cook Electric Co., Chicago, Ill.
Detroit Lubricator Co., Detroit, Mich.
Friez & Sons, Inc., Julien P., Baltimore, Md.
Hart & Cooley Mfg. Co., Chicago, Ill.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Modern Heat Regulator Co., Cleveland, O.
Pennsylvania Ventilating Co., Philadelphia, Pa.
Pioneer Heat Regulator Corp., Dayton, O.
Robbins & Myers, Inc., Springfield, O.
Russell Electric Co., Chicago, Ill.
Sheer Co., H. M., Quincy, Ill.
Stat-Amatic Instrument & Appliance Co., Hartford, Conn.

MOTORS, DAMPER, MECHANICAL

Cook Electric Co., Chicago, Ill. Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. Pennsylvania Ventilating Co., Philadelphia, Pa.

MOTORS, ELECTRIC, FRACTIONAL H. P.

Baldor Electric Co., St. Louis, Mo. Barber-Colman Co., Rockford, Ill. Baldor Electric Co., St. Louis, Mo.
Barber-Colman Co., Rockford, Ill.
Black & Decker Mfg. Co., Towson, Md.
Bodine Electric Co., Chicago, Ill.
Brown-Brockmeyer Co., Inc., Dayton, O.
Burke Electric Co., Erie, Pa.
Century Electric Co., St. Louis, Mo.
Continental Electric Co., Inc., Newark, N. J.
Delco Products Corp., Dayton, O.
Diehl Mfg. Co., Elizabethport, N. J.
Dumore Co., Racine, Wis.
Duro Co., Dayton, O.
Eisler Electric Corp., Newark, N. J.
Emerson Electric Mfg. Co., St. Louis, Mo.
Fairbanks, Morse & Co., Chicago, Ill.
General Electric Co., Schenectady, N. Y.
Harnischfeger Corp., Milwaukee, Wis.
Holtzer-Cabot Electric Co., Boston, Mass.
Howell Electric Motors Co., Howell, Mich.
Janett Mfg. Co., Chicago, Ill.
Leland Electric Co., Dayton, O.
Master Electric Co., Dayton, O.
Myers Electric Co., Pittsburgh, Pa.
Ohio Electric Mfg. Co., Cleveland, O.
Peerless Electric Co., Warren, O.
Roan Mfg. Co., Racine, Wis.
Robbins & Myers, Inc., Springfield, O.
Valley Electric Corp., St. Louis, Mo.
Victor Electric Products, Inc., Cincinnati, O.
Wagner Electric Corp., St. Louis, Mo.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Zobell Electric Motor Corp., Garwood, N. J.

MOTORS, ELECTRIC, I H. P. AND OVER

MOTORS, ELECTRIC, I H. P. AND OVER

Allis Co., Louis, Milwaukee, Wis. Allis-Chalmers Mfg. Co., Milwaukee, Wis. Baldor Electric Co., St. Louis, Mo. Brown-Brockmeyer Co., Inc., Dayton, O. Century Electric Co., St. Louis, Mo.

Continental Electric Co., Inc., Newark, N. J.
Crocker-Wheeler Elec. Mfg. Co., Ampere, N. J.
Delco Products Corp., Dayton, O.
Diehl Mfg. Co., Elizabethport, N. J.
Duro Co., Dayton, O.
Eisler Electric Corp., Newark, N. J.
Emerson Elec. Mfg. Co., St. Louis, Mo.
Fairbanks, Morse & Co., Chicago, Ill.
General Electric Co., Schenectady, N. Y.
Harnischfeger Corp., Milwaukee, Wis.
Howell Electric Motors Co., Howell, Mich.
Ideal Electric & Mfg. Co., Mansfield, O.
Imperial Electric Co., Akron, O.
Leland Electric Co., Dayton, O.
Lincoln Electric Co., Cleveland, O.
Master Electric Co., Pittsburgh, Pa.
Peerless Electric Co., Warren, O.
Reliance Electric & Engineering Co., Cleveland, O.
Robbins & Myers, Inc., Springfield, O.
Star Electric Motor Co., Bloomfield, N. J.
Valley Electric Corp., St. Louis, Mo.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

NAILS, ALUMINUM

Aluminum Company of America, Pittsburgh, Pa.

NAILS, COPPER

American Steel Co., Pittsburgh, Pa.
American Steel & Wire Co., Chicago, Ill.
Angell Nail & Chaplet Co., Cleveland, O.
Chase Brass & Copper Co., Waterbury, Conn.
Clendenin Bros., Baltimore, Md.
Columbia Steel Co., San Francisco, Cal.
Deniston Co., Chicago, Ill.
Downs-Smith Brass & Copper Co., Long Island City, N. Y.
Milcor Steel Co., Milwaukee, Wis.
Townsend Co., New Brighton, Pa.
Turner & Seymour Mfg. Co., Torrington, Conn.

NAILS, HARDENED MASONRY

American Steel Co., Pittsburgh, Pa.
American Steel & Wire Co., Chicago, Ill.
Angell Nail & Chaplet Co., Cleveland, O.
Parker-Kalon Corp., New York City.
Republic Steel Corp., Youngstown, O.
Townsend Co., New Brighton, Pa.

NAILS, MONEL METAL

International Nickel Co., Inc., New York City.

NAILS, ROOFING

NAILS, ROOFING

All States Roofers Equipment & Material Co., Chicago, Ill. American Steel Co., Pittsburgh, Pa.

American Steel & Wire Co., Chicago, Ill. Angell Nail & Chaplet Co., Cleveland, O.

Bethlehem Steel Co., Bethlehem, Pa.

Chase Brass & Copper Co., Waterbury, Conn.

Continental Steel Corp., Kokomo, Ind.

Copperweld Steel Corp., Kokomo, Ind.

Copperweld Steel Co., Glassport, Pa.

Deniston Co., Chicago, Ill.

Dickson Weatherproof Nail Co., Evanston, Ill.

Edwards Mfg. Co., Inc., Cincinnati, O.

Emrich, Phil, Cincinnati, O.

Hassall, Inc., John, Brooklyn, N. Y.

Jones & Laughlin Steel Corp., Pittsburgh, Pa.

Keasbey & Mattison Co., Ambler, Pa.

Malleable Iron Fittings Co., Branford, Conn.

Maze Co., W. H., Peru, Ill.

Milcor Steel Co., Milwaukee, Wis.

National Lead Co., New York City (Lead).

New York Iron Roofing & Corrugating Co., Jersey City, N. J.

Republic Steel Corp., Youngstown, O.

Ruberoid Co., New York City.

Townsend Co., New Brighton, Pa.

Turner & Seymour Mfg. Co., Torrington, Conn.

Western Blower Co., Seattle, Wash.

Wheeling Corrugating Co., Wheeling, W. Va.

Wheeling Steel Corp., Wheeling, W. Va.

Youngstown Sheet & Tube Co., Youngstown, O.

NAILS, SCREW, HARDENED

Parker-Kalon Corp., New York City.

NAILS, WIRE

American Steel Co., Pittsburgh, Pa.
American Steel & Wire Co., Chicago, Ill.
Angell Nail & Chaplet Co., Cleveland, O.
Bethlehem Steel Co., Bethlehem, Pa.
Brooklyn-Wolf Metal Ceiling Co., Inc., Brooklyn, N. Y.

Chase Brass & Copper Co., Waterbury, Conn.
Columbia Steel Co., San Francisco, Cal.
Continental Steel Corp., Kokomo, Ind.
Edwards Mfg. Co., Inc., Cincinnati, O.
Hassall, Inc., John, Brooklyn, N. Y.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Malleable Iron Fittings Co., Branford, Conn.
Milcor Steel Co., Milwaukee, Wis.
New York Iron Roofing & Corrugating Co., Jersey City, N. J.
Republic Steel Corp., Youngstown, O.
Robertson Steel & Iron Co., W. F., Cincinnati, O.
Townsend Co., New Brighton, Pa.
Wheeling Corrugating Co., Wheeling, W. Va.
Wheeling Steel Corp., Wheeling, W. Va.
Youngstown Sheet & Tube Co., Youngstown, O.

NAILS, ZINC COATED

American Steel Co., Pittsburgh, Pa.

American Steel & Wire Co., Chicago, Ill.

American Zinc Products Co., Greencastle, Ind.

Downs-Smith Brass & Copper Co., Long Island City, N. Y.

Hassall, Inc., John, Brooklyn, N. Y.

Maze Co., W. H., Peru, Ill.

Republic Steel Corp., Youngstown, O.

Ruberoid Co., New York City.

Wheeling Corrugating Co., Wheeling, W. Va.

Wheeling Steel Corp., Wheeling, W. Va.

Youngstown Sheet & Tube Co., Youngstown, O.

NIBBLING MACHINES See Machines, Nibbling

NOZZLES, OIL BURNER See Burner, Oil, Accessories

NOZZLES, WATER SPRAY

American Blower Corp., Detroit, Mich.
Badger & Sons, E. B., Boston, Mass.
Bayley Blower Co., Milwaukee, Wis.
Buffalo Forge Co., Buffalo, N. Y.
Clarage Fan Co., Kalamazoo, Mich.
Jackson Moistening Co., Inc., Fall River, Mass.
Jenkins Bros., Bridgeport, Conn.
Monarch Mfg. Works, Inc., Philadelphia, Pa.
New York Blower Co., Chicago, Ill.
Parks-Cramer Co., Fitchburg, Mass.
Spraco, Inc., Somerville, Mass.
Sturtevant Co., B. F., Hyde Park, Boston, Mass Sturtevant Co., B. F., Hyde Park, Boston, Mass.

OFFSETS, FURNACE PIPE

See Pipe, Furnace, Fittings and Accessories

OIL BURNER ACCESSORIES

See Burner, Oil, Accessories

OIL BURNER CONTROLS

See Controls, Oil Burne

OIL BURNER FITTINGS

See Burner, Oil, Accessories

OIL BURNERS

See Burners, Oil

OIL BURNING FURNACES

See Furnaces, Warm Air, Oil Burning

OIL OR GAS BURNING FURNACES

See Furnaces, Warm Air, Gas or Oil Burning

ORNAMENTS, SHEET METAL

Biersach & Niedermeyer Co., Milwaukee, Wis. Edwards Mfg. Co., Inc., Cincinnati, O. Friedley-Voshardt Co., Chicago, Ill. Globe Iron Roofing & Corrugating Co., Cincinnati, O. Hegeler Zinc Co., Danville, Ill. (Zinc). Hudson Mfg. Co., H. D., Minneapolis, Minn. International Steel Co., Evansville, Ind. Kelly Co., Wm. J., Brooklyn, N. Y. Mesker & Co., Geo. L., Evansville, Ind. Milcor Steel Co., Milwaukee, Wis. Miller & Doing, Inc., Brooklyn, N. Y. Newman Brothers, Inc., Cincinnati, O. Philadelphia Metal Stamping Co., Camden, N. J. Schoedinger, F. O., Columbus, O.

OXY-ACETYLENE TORCHES

See Torches, Brazing, Cutting, Welding, Oxy-Acetylene

OZONIZERS

Ozone Pure Airifler Co., Chicago, Ill. Triox Engineering Co., St. Louis, Mo. U. S. Ozone Co., Chicago, Ill.

PAINT, ALUMINUM

Artic Chemical & Combustion Engineering Corp., Brooklyn,

Calbar Paint & Varnish Co., Philadelphia, Pa. Carter Paint Co., Liberty, Ind. Connors Paint Mfg. Co., Wm., Troy, N. Y. Continental Products Co., Euclid, O. Glidden Co., Cleveland, O. Heath & Milligan Mfg. Co., Chicago, Ill. Horn Co., A. C., Long Island City, N. Y. Iowa Paint Mfg. Co., Des Moines, Ia. Koppers Products Co., Pittsburgh, Pa. Lastik Products Co., Inc., Pittsburgh, Pa. Marion Machine Foundry & Supply Co., Marion, Ind. National Mfg. Corp., Tonawanda, N. Y. Ohmlac Paint & Refining Co., Chicago, Ill. Pecora Paint Co., Philadelphia, Pa. Reynolds Metals Co., New York City. Ruberoid Co., New York City. Thompson & Co., Pittsburgh, Pa. Tropical Paint & Oil Co., Cleveland, O. Truscon Steel Co., Youngstown, O. Wilhelm Co., A., Reading, Pa.

PAINT, ASBESTOS

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Calbar Paint & Varnish Co., Philadelphia, Pa.
Carter Paint Co., Liberty, Ind.
Connors Paint Mfg. Co., Wm., Troy, N. Y.
Continental Products Co., Euclid, O.
Creo-Dipt Co., Inc., N. Tonawanda, N. Y.
Ehret Magnesia Mfg. Co., Valley Forge, Pa.
Glidden Co., Cleveland, O.
Heath & Milligan Mfg. Co., Chicago, Ill.
Hetzel Roofing Products Co., Newark, N. J.
Horn Co., A. C., Long Island City, N. Y.
Iowa Paint Mfg. Co., Des Moines, Ia.
Lastik Products Co., Inc., Pittsburgh, Pa.
National Mfg. Corp., Tonawanda, N. Y.
Ohmlac Paint & Refining Co., Chicago, Ill.
Osborn Co., J. M., & L. A., Cleveland, O.
Technical Products Co., Pittsburgh, Pa.
Thompson & Co., Pittsburgh, Pa.
Tropical Paint & Oil Co., Cleveland, O.
Truscon Steel Co., Youngstown, O.
Wilhelm Co., A., Reading, Pa.

PAINT, CONCRETE, WATERPROOFING

PAINT, CONCRETE, WATERPROOF
Barber Asphalt Co., Philadelphia, Pa.
Calbar Paint & Varnish Co., Philadelphia, Pa.
Carter Paint Co., Liberty, Ind.
Certain-teed Products Corp., New York City.
Connors Paint Mfg. Co., Wm., Troy, N. Y.
Continental Products Co., Euclid, O.
Ehret Magnesia Mfg. Co., Valley Forge, Pa.
Glidden Co., Cleveland, O.
Heath & Milligan Mfg. Co., Chicago, Ill.
Horn Co., A. C., Long Island City, N. Y.
Iowa Paint Mfg. Co., Des Moines, Ia.
Koppers Products Co., Pittsburgh, Pa.
Lastik Products Co., Inc., Pittsburgh, Pa.
National Mfg. Corp., Tonawanda, N. Y.
Ohmlac Paint & Refining Co., Chicago, Ill.
Pecora Paint Co., Philadelphia, Pa.
Robertson Co., H. H., Pittsburgh, Pa.
Ruberoid Co., New York City.
Thompson & Co., Pittsburgh, Pa.
Tropical Paint & Oil Co., Cleveland, O.
Truscon Steel Co., Youngstown, O.
Wilhelm Co., A., Reading, Pa.

PAINT, HOT SURFACES

Acme Refining Co., Cleveland, O.
Artic Chemical & Combustion Engineering Co.
N. Y.
Calbar Paint & Varnish Co., Philadelphia, Pa.
Carter Paint Co., Liberty, Ind.
Certain-teed Products Corp., New York City.
Continental Products Co., Euclid, O.
Ehret Magnesia Mfg. Co., Valley Forge, Pa.
Glidden Co., Cleveland, O.
Heath & Milligan Mfg. Co., Chicago, Ill.
Hetzel Roofing Products Co., Newark, N. J.
Horn Co., A. C., Long Island City, N. Y.
Iowa Paint Mfg. Co., Des Moines, Ia.
National Mfg. Corp., Tonawanda, N. Y.
Ohmlac Paint & Refining Co., Chicago, Ill.
Thompson & Co., Pittsburgh, Pa.
Tropical Paint & Oil Co., Cleveland, O.
Truscon Steel Co., Youngstown, O.
Wilhelm Co., A., Reading, Pa. Acme Refining Co., Cleveland, O. Artic Chemical & Combustion Engineering Corp., Brooklyn,

PAINT, IRON WORK

Acme Refining Co., Cleveland, O.
Artic Chemical & Combustion Engineering Corp., Brooklyn, N. Y.
Calbar Paint & Varnish Co., Philadelphia, Pa.
Carter Paint Co., Liberty, Ind.
Clinton Metallic Paint Co., Clinton, N. Y.
Continental Products Co., Euclid, O.
Eagle-Picher Lead Co., Cincinnati, O.
Glidden Co., Cleveland, O.

Heath & Milligan Mfg. Co., Chicago, Ill.
Hetzel Roofing Products Co., Newark, N. J.
Horn Co., A. C., Long Island City, N. Y.
Iowa Paint Mfg. Co., Des Moines, Ia.
Koppers Products Co., Pittsburgh, Pa.
Lastik Products Co., Inc., Pittsburgh, Pa.
National Lead Co., New York City.
National Mfg. Corp., Tonawanda, N. Y.
Ohmlac Paint & Refining Co., Chicago, Ill.
Robertson Co., H. H. Pittsburgh, Pa.
Rutland Fire Clay Co., Rutland, Vt.
Thompson & Co., Pittsburgh, Pa.
Tropical Paint & Oil Co., Cleveland, O.
Truscon Steel Co., Youngstown, O.
Wilhelm Co., A., Reading, Pa.

PAPER, ASBESTOS

Bergstrom Mfg. Co., Neenah, Wis. Bergstrom Mfg. Co., Neenah, Wis.
Carey Co., Philip, Lockland, O.
Ehret Magnesia Mfg. Co., Valley Forge, Pa.
Janos Asbestos Co., New York City.
Johns-Manville Sales Corp., New York City.
Keasbey & Mattison Co., Ambler, Pa.
Linde Air Products Co., New York City.
Norristown Magnesia & Asbestos Co., Norristown, Pa.
Pacific States Felt & Mfg. Co., Inc., San Francisco, Cal.
Ruberold Co., New York City.
Sall Mountain Co., Chicago, Ill.
Smith & Kanzler, Inc., Elizabeth, N. J.
Standard Asbestos Mfg. Co., Chicago, Ill.
Wilson, Inc., Grant, Chicago, Ill.

PASTE, PIPE COVERING

Clark Stek-O Corp., Rochester, N. Y.
Ehret Magnesia Mfg. Co., Valley Forge, Pa.
Iowa Paint Mfg. Co., Des Moines, Ia.
Keasbey & Mattison Co., Ambler, Pa.
Norristown Magnesia & Asbestos Co., Norristown, Pa.
Sall Mountain Co., Chicago, Ill.
Smith & Kanzler, Inc., Elizabeth, N. J.
Standard Asbestos Mfg. Co., Chicago, Ill.
Standard Lime & Stone Co., Baltimore, Md.
Wilson, Inc., Grant, Chicago, Ill.

PERFORATED METALS

See Metals, Perforated, Sheet and Plate

PIPE, ALUMINUM

Aluminum Company of America, Pittsburgh, Pa. Fingles, Inc., W. A., Baltimore, Md. Philips, Inc., Karl, New York City.

PIPE, BLOCK TIN

Belmont Smelting & Refining Works, Inc., Brooklyn, N. Y. Beverage Industries Corp., Detroit, Mich. Eagle-Picher Lead Co., Cincinnati, O. Gardiner Metal Co., Chicago, Ill. National Lead Co., New York City. Rochester Lead Works, Rochester, N. Y. Standard Rolling Mills, Inc., Brooklyn, N. Y.

PIPE, CONDUCTOR

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Ames Co., W. R., San Francisco, Cal.
Barnes Metal Products Co., Chicago, Ill.
Berger Bros. Co., Philadelphia, Pa.
Bergstrom Mfg. Co., Neenah, Wis.
Cincinnati Sheet Metal & Roofing Co., Cincinnati, O.
Danzer Metal Works, Inc., Hagerstown, Md.
Decatur Iron & Steel Co., Decatur, Ala.
Downs-Smith Brass & Copper Co., Long Island City, N. Y.
Edwards Mfg. Co., Inc., Cincinnati, O.
Friedley-Voshardt Co., Chicago, Ill. (Ornamental).
Hussey & Co., C. G., Pittsburgh, Pa. (Copper).
La Crosse Steel Roofing & Corrugating Co., La Crosse, Wis.
Lyon, Conklin & Co., Cambridge, Mass.
Lyon, Conklin & Co., Inc., Baltimore, Md.
Milcor Steel Co., Milwaukee, Wis.
National Lead Co., New York City (Lead).
New Delphos Mfg. Co., Delphos, O.
New York Iron Roofing & Corrugating Co., Jersey City, N. J.
Norman Sheet Metal Mfg. Co., W. F., Nevada, Mo.
Obdyke, Inc., Benamin P., Philadelphia, Pa.
Osborn Co., J. M. & L. A., Cleveland, O.
Reeves Mfg. Co., Dover, O.
Republic Steel Corp., Youngstown, O.
St. Paul Corrugating Co., St. Paul, Minn.
Schoedinger, F. O., Columbus, O.
Tiffin Art Metal Co., Tiffin, O.
Watson Co., Inc., Jas. H., Bradley, Ill.
Wheeling Corrugating Co., Wheeling, W. Va.
York Corrugating Co., York, Pa.

PIPE COVERING

See Covering, Furnace and Pipe

PIPE COVERING PASTE

See Paste, Pipe Covering

PIPE COVERING PROTECTORS

See Protectors, Pipe Covering

PIPE, FURNACE; FITTINGS AND ACCESSORIES

(Angles, Boots, Elbows, Joints, Offsets, Stacks, Tees, Etc.)

PIPE, FURNACE; FITTINGS AND ACCESSORIES

(Angles, Boots, Elbows, Joints, Offsets, Stacks, Tees, Etc.)

Acer & Whedon, Inc., Medina, N. Y.

Acme Tin Plate & Roofing Supply Co., Philadelphia, Pa.

Beatrice Steel Tank Mfg. Co., Beatrice, Nebr.

Berger Co., L. D., Philadelphia, Pa.

Berger Co., L. D., Philadelphia, Pa.

Berger Go., L. D., Philadelphia, Pa.

Bergersom Mfg. Co., Neenah, Wis.

Cincinnati Stamping Co., Cincinnati, O.

Cincinnati Stafety Furnace Pipe Co., Detroit, Mich.

Detroit Safety Furnace Pipe Co., Detroit, Mich.

Emrich Co., C., Columbus, O.

Excelsior Steel Furnace Co., Chicago, Ill.

Follansbee Brothers Co., Pittsburgh, Pa.

Gray Metal Products, Inc., Rochester, N. Y.

Green Foundry & Furnace Works, Des Moines, Ia.

Harold Furnace Co., Holland, Mich.

Home Furnace Co., Holland, Mich.

Home Furnace Co., Indianapolis, Ind.

International Heater Co., Utica, N. Y.

Johnson Co., Inc., Chas., Peoria, Ill.

Jones & Laughlin Steel Corp., Pittsburgh, Pa.

Kelsey Heating Co., Syracuse, N. Y.

Lamneck Products, Inc., Columbus, O.

Lennox Furnace Co., Marshalltown, Ia.

Lyman Co., H. B., Southampton, Mass.

Lyon, Conklin & Co., Inc., Baltimore, Md.

MaGirl Foundry & Furnace Works, P. H., Bloomington, Ill.

Maple City Furnace Co., Monmouth, Ill.

Maplewood Machinery Co., Chicago, Ill.

Marshall Furnace Co., Monmouth, Ill.

Maplewood Machinery Co., Chicago, Ill.

Marshall Furnace Co., Monmouth, Ill.

Maple City Furnace Co., L. J., Milwaukee, Wis.

Osborn Co., J. M., & L. A., Cleveland, O.

Peerless Foundry Co., Inc., Indianapolis, Ind.

Phillips Heating, Ventiating & Mfg. Co., Los Angeles, Cal.

Portland Stove Foundry Co., Portland, Me.

Reeves Mfg. Co., Dover, O.

Republic Steel Corp., Youngstown, O.

Rival Strap Corp., New York City (Leader Straps).

Rock Island Reg

PIPELESS FURNACES

See Furnaces, Warm Air, Pipeless

PIPE, SMOKE

PIPE, SMOKE

Acer & Whedon, Inc., Medina, N. Y.
Acme Tin Plate & Roofing Supply Co., Philadelphia, Pa.
Beatrice Steel Tank Mfg. Co., Beatrice, Nebr.
Berger Co., L. D., Philadelphia, Pa.
Bergstrom Mfg. Co., Neenah, Wis.
Budke Stamping Co., Canonsburg, Pa.
Campbell Heating Co., Des Moines, Ia.
Cincinnati Sheet Metal & Roofing Co., Cincinnati, O.
Cincinnati Stamping Co., Cincinnati, O.
Cincinnati Stamping Co., Cincinnati, O.
Danzer Metal Works, Inc., Hagerstown, Md.
Detroit Safety Furnace Pipe Co., Detroit, Mich.
Excelsior Steel Furnace Co., Chicago, Ill.
Farquhar Furnace Co., Wilmington, O.
Follansbee Brothers Co., Pittsburgh, Pa.
Harold Furnace Mfg. Co., Spokane, Wash.
Henry Furnace & Foundry Co., Cleveland, O.
Holland Furnace Co., Holland, Mich.
Home Furnace Co., Holland, Mich.
International Heater Co., Utica, N. Y.
Johnson Co., Inc., Chas., Peoria, Ill.
La Crosse Steel Roofing & Corrugating Co., La Crosse, Wis.
Lamneck Products, Inc., Columbus, O.
Lyman Co., H. B., Southampton, Mass.
Maple City Furnace Co., Monmouth, Ill.
Meyer & Bro. Co., F., Peoria, Ill.
Milcor Steel Co., Milwaukee, Wis.
Mueller Furnace Co., L. J., Milwaukee, Wis.
Osborn Co., J. M. & L. A., Cleveland, O.
Portland Stove Foundry Co., Portland, Me.
Reeves Mfg. Co., Dover, O.
Republic Steel Corp., Youngstown, O.
Rock Island Register Co., Rock Island, Ill.
Rosebraugh Co., W. W., Salem. Ore.
Schoedinger, F. O., Columbus, O.
Southbridge Roofing Co., Inc., Southbridge, Mass.
Standard Furnace & Supply Co., Omaha, Nebr.

Sterling Foundry Co., Sterling, Ill.
Sternaman, Paul L., Springfield, Ill. (Cast Iron).
Tierney Rotor Ventilator Co., Minneapolis, Minn.
Tiffin Art Metal Co., Tiffin, O.
U. S. Register Co., Battle Creek, Mich.
Waterloo Register Co., Waterloo, Ia.
Watson Co., Inc., Jas. H., Bradley, Ill.
Wilder Metal Co., Niles, O.
Williamson Heater Co., Cincinnati, O.

PIPE. STOVE

PIPE, STOVE

Acer & Whedon, Inc., Medina, N. Y.

Acme Tin Plate & Roofing Suppy Co., Philadelphia, Pa.

Ames Co., W. R., San Francisco, Cal.

Berger Co., L. D., Philadelphia, Pa.

Budke Stamping Co., Canonsburg, Pa.

Decatur Iron & Steel Co., Decatur, Ala,

Excelsior Steel Furnace Co., Chicago, Ill.

Follansbee Brothers Co., Pittsburgh, Pa.

Lyman Co., H. B., Southampton, Mass.

Maple City Furnace Co., Monmouth, Ill.

Milcor Steel Co., Milwaukee, Wis.

Osborn Co., J. M. & L. A., Cleveland, O.

Parkersburg Iron & Steel Co., Parkersburg, W. Va.

Portland Stove Foundry Co., Portland, Me.

Reeves Mfg. Co., Dover, O.

Schoedinger, F. O., Columbus, O.

Southbridge Roofing Co., Inc., Southbridge, Mass.

Tierney Rotor Ventilator Co., Minneapolis, Minn.

Wheeling Corrugating Co., Wheeling, W. Va.

Wilder Metal Co., Niles, O.

PLATE COPPER

See Copper, Plate and Roll

PLATE, TIN

See Sheets. Tin

PLATES, ALUMINUM

Aluminum Company of America, Pittsburgh, Pa.

PLATES, BOILER, FOR TANKS, ETC.

American Rolling Mill Co., Middletown, O. Bethlehem Steel Co., Bethlehem, Pa. Carnegle Steel Co., Pittsburgh, Pa. Columbia Steel Co., San Francisco, Cal. Granite City Steel Co., Granite City, Ill. Hegeler Zinc Co., Danville, Ill. (Zinc). Hendrick Mfg. Co., Carbondale, Pa. Inland Steel Co., Chicago, Ill. Otis Steel Co., Cleveland, O. Republic Steel Corp., Youngstown, O. Wood Steel Co., Alan, Conshohocken, Pa. Youngstown Sheet & Tube Co., Youngstown, O.

PLATES, IRON

American Rolling Mill Co., Middletown, O.
Byers Co., A. M., Pittsburgh, Pa. (Genuine Wrought Iron).
Globe Iron Roofing & Corrugating Co., Cincinnati, O.
Granite City Steel Co., Granite City, Ill.
Maple City Furnace Co., Monmouth, Ill.
Reading Iron Co., Philadelphia, Pa. (Genuine Wrought Iron).
Republic Steel Corp., Youngstown, O.
Western Wire & Iron Works, Inc., Chicago, Ill.

PLATES, STEEL

PLATES, STEEL

American Rolling Mill Co., Middletown, O. Bethlehem Steel Co., Bethlehem, Pa. Carnegie Steel Co., Pittsburgh, Pa. Columbia Steel Co., San Francisco, Cal. Crucible Steel Co. of America, New York City. Globe Iron Roofing & Corrugating Co., Cincinna Granite City Steel Co., Granite City, Ill. Inland Steel Co., Chicago, Ill. Jones & Laughlin Steel Corp., Pittsburgh, Pa. Otis Steel Co., Cleveland, O. Republic Steel Corp., Youngstown, O. Truscon Steel Co., Youngstown, O. Wheeling Corrugating Co., Wheeling, W. Va. Wheeling Steel Corp., Wheeling, W. Va. Wood Steel Co., Alan, Conshohocken, Pa. Youngstown Sheet & Tube Co., Youngstown, O.

PORTABLE DRILLS, ELECTRIC

See Drills, Portable, Hand and Bench, Electric

PORTABLE GARAGES

See Garages, Portable

POWER PUNCHES

See Punches, Power

POWER SHEARS See Shears, Power

PRESSES AND DIES

Allsteel Press Co., Chicago, Ill. Bliss Co., E. W., Toledo, O.

Callahan Can Machine Co., Inc., Brooklyn, N. Y. Dreis & Krump Mfg. Co., Chicago, Ill. Farrel-Birmingham Co., Inc., Ansonia, Conn. Ferracute Machine Co., Bridgeton, N. J. Grand Rapids Die & Tool Co., Grand Rapids, Mich. Hendley & Whittemore Co., Beloit, Wis. Henry & Wright Mfg. Co., Hartford, Conn. Lake Erie Engineering Corp., Buffalo, N. Y. McKinney Tool & Mfg. Co., Cleveland, O. Minster Machine Co., Minster, O. New Albany Machine Mfg. Co., New Albany, Ind. Niagara Machine & Tool Works, Buffalo, N. Y. Ohl & Co., Geo. A., Newark, N. J. Peck, Stow & Wilcox Co., Southington, Conn. Perkins Machine Co., Warren, Mass. Rock River Machine Co., Janesville, Wis. Schatz Mfg. Co., Poughkeepsie, N. Y. Streine Tool & Mfg. Co., New Bremen, O. Swaine Mfg. Co., Fred J., St. Louis, Mo. Toledo Machine & Tool Co., Toledo, O. United Tool & Die Co., Inc., Hartford, Conn. Zeh & Hahnemann Co., Newark, N. J.

PRESSURE REGULATING VALVES, GAS

See Valves, Gas Pressure Regulating

OTECTORS, DOWNSPOUT

See Fittings and Accessories, Conductor

PROTECTORS, PIPE COVERING

Cheney Co., Winchester, Mass

PULLEYS, FURNACE

Hart & Cooley Mfg. Co., Chicago, Ill. Mueller Furnace Co., L. J., Milwaukee, Wis. Tuttle & Bailey, Inc., New Britain, Conn. U. S. Register Co., Battle Creek, Mich.

PUMPS, BEER

Allen Corp., Detroit, Mich. (Hand, Hydraulic & Electric). Bastian-Blessing Co., Chicago, Ill. (Hand, Hydraulic & Elec-

tric).

Bishop & Babcock Sales Co., Cleveland, O. (Hand, Hydraulic & Electric).

Brew Tapping Apparatus, Inc., New York City (Electric).

Brunner Mfg. Co., Utica, N. Y. (Electric).

Chicago Pump Co., Chicago, Ill. (Electric).

Clarm Mechanical Devices Co., Lima, O. (Electric).

Hudson Mfg. Co., H. D., Minneapolis, Minn. (Hand).

Manley Manufacturing Co., York, Pa. (Hand, Electric).

Morrison Bros. Co., Dubuque, Ia. (Hand).

Northern Pump Co., Minneapolis, Minn. (Electric).

Perkes Co., Charles, Philadelphia, Pa. (Hand).

Philips, Inc., Karl, New York City (Electric).

Roper Corp., Geo. D., Rockford, Ill. (Electric).

Seifert, Inc., E. R., Syracuse, N. Y. (Electric).

Smith Welding Equipment Corp., Minneapolis, Minn. (Hand, Electric).

Smith Welding Equipment Corp., Minneapons, Minn. (Han Electric).

Thermal Units Mfg. Co., Chicago, Ill. (Electric).

Thompson & Co., Pittsburgh, Pa. (Hand, Electric).

Tuthill Pump Co., Chicago, Ill. (Electric).

Viking Pump Co. of Delaware, Cedar Falls, Ia. (Electric).

PUMPS, OIL

See Burner, Oil, Accessories

PUNCHES, BENCH

Armstrong-Blum Mfg. Co., Chicago, Ill.
Ferracute Machine Co., Bridgeton, N. J.
Heartley Machine & Tool Co., Toledo, O.
Hendley & Whittemore Co., Beloit, Wis.
Kidder Mfg. Co., Inc., J. F., Burlington, Vt.
Maplewood Machinery Co., Chicago, Ill.
National Machine Tool Co., Racine, Wis.
Niagara Machine & Tool Works, Buffalo, N. Y.
Parker-Kalon Corp., New York City.
Peck, Stow & Wilcox Co., Southington, Conn.
Rock River Machine Co., Janesville, Wis.
Schatz Mfg. Co., Poughkeepsie, N. Y.
Whitney Mfg. Co., W. A., Rockford, Ill.
Whitney Metal Tool Co., Rockford, Ill.

PUNCHES, HAND

PUNCHES, HAND

Armstrong-Blum Mfg. Co., Chicago, Ill.
Bertsch & Co., Inc., Cambridge City, Ind.
Champion Blower & Forge Co., Lancaster, Pa.
Cleveland Punch & Shear Works, Cleveland, O.
Danzer Metal Works, Inc., Hagerstown, Md.
Emrich, Phil, Cincinnati, O.
Ferracute Machine Co., Bridgeton, N. J.
Heartley Machine & Tool Co., Toledo, O.
Hendley & Whittemore Co., Beloit, Wis.
Johnson, Inc., William, Newark, N. J.
Kane & Roach, Inc., Syracuse, N. Y.
Kidder Mfg. Co., J. F., Burlington, Vt.
Niagara Machine & Tool Works, Buffalo, N. Y.
Parker-Kalon Corp., New York City.
Peck, Stow & Wilcox Co., Southington, Conn.
Pels & Co., Inc., New York City.

Quality Tools Corp., New Wilmington, Pa. Rock River Machine Co., Janesville, Wis. Schatz Mfg. Co., Poughkeepsie, N. Y. Stanley Electric Tool Co., New Britain, Conn. Whitney Mfg. Co., W. A., Rockford, Ill. Whitney Metal Tool Co., Rockford, Ill.

PUNCHES, COMBINATION HAND AND BENCH

Armstrong-Blum Mfg. Co., Chicago, Ill.
Bertsch & Co., Inc., Cambridge City, Ind.
Hendley & Whittemore Co., Beloit, Wis.
Niagara Machine & Tool Works, Buffalo, N. Y.
Parker-Kalon Corp., New York City.
Peck, Stow & Wilcox Co., Southington, Conn.
Pels & Co., Inc., Henry, New York City.
Rock River Machine Co., Janesville, Wis.
Schatz Mfg. Co., Poughkeepsie, N. Y.
Whitney Metal Tool Co., Rockford, Ill.

PUNCHES, POWER

PUNCHES, POWER

Allsteel Press Co., Chicago, Ill.
Baldwin-Southwark Corp., Philadelphia, Pa.
Bertsch & Co., Inc., Cambridge City, Ind.
Cleveland Punch & Shear Works, Cleveland, O.
Farrell-Birmingham Co., Inc., Ansonia, Conn.
Ferracute Machine Co., Bridgeton, N. J.
Hendley & Whittemore Co., Beloit, Wis.
Hilyard-Newbold Co., Norristown, Pa.
Kane & Roach, Inc., Syracuse, N. Y.
Lake Erie Engineering Corp., Buffalo, N. Y.
New Albany Machine Mfg. Co., New Albany, Ind.
Niagara Machine & Tool Works, Buffalo, N. Y.
Peck, Stow & Wilcox Co., Southington, Conn.
Pels & Co., Inc., Henry, New York City.
Rock River Machine Co., Janesville, Wis.
Schatz Mfg. Co., Poughkeepsie, N. Y.
Streine Tool & Mfg. Co., New Bremen, O.
Zeh & Hahnemann Co., Newark, N. J.

PUNCHES AND SHEARS COMBINED

PUNCHES AND SHEARS COMBINE
Allsteel Press Co., Chicago, Ill.
Armstrong-Blum Mfg. Co., Chicago, Ill.
Baldwin-Southwark Corp., Philadelphia, Pa.
Bertsch & Co., Inc., Cambridge City, Ind.
Cleveland Punch & Shear Works, Cleveland, O.
Heartley Machine & Tool Co., Toledo, O.
Hendley & Whittemore Co., Beloit, Wis.
Hilyard-Newbold Co., Norristown, Pa.
Kane & Roach, Inc., Syracuse, N. Y.
Kidder Mfg. Co., Inc., J. F., Burlington, Vt.
Lake Erie Engineering Corp., Buffalo, N. Y.
National Machine Tool Co., Racine, Wis.
Niagara Machine & Tool Works, Buffalo, N. Y.
Peck, Stow & Wilcox Co., Southington, Conn.
Pels & Co., Inc., Henry, New York City.
Rock River Machine Co., Janesville, Wis.
Schatz Mfg. Co., Poughkeepsie, N. Y. Schatz Mfg. Co., Poughkeepsie, N. Y

QUADRANTS

See Dampers, Quadrants and Accessories

REFRIGERATING UNITS

REFRIGERATING UNITS

Baker Ice Machine Co., Omaha, Nebr.
Brunner Mfg. Co., Utica, N. Y.
Carbondale Machine Co., Carbondale, Pa.
Carrier Engineering Corp., Newark, N. J.
Copeland Refrigeration Corp., Mt. Clemens, Mich.
Frick Co., Inc., Waynesboro, Pa.
Frigidaire Corp., Dayton, O.
General Electric Co., Schenectady, N. Y.
General Refrigeration Sales Co., Beloit, Wis.
Kelvinator Sales Corp., Detroit, Mich.
Peerless Ice Machine Co., Chicago, Ill.
Servel Sales, Inc., Evansville, Ind.
Thermal Units Mfg. Co., Chicago, Ill.
Vilter Mfg. Co., Milwaukee, Wis.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Williams Oil-O-Matic Heating Corp., Bloomington, Ill.
Wittenmeier Machinery Co., Chicago, Ill.
York Ice Machinery Corp., York, Pa.

REGISTER SHIELDS

See Shields, Warm Air Register

REGISTERS, HEATING AND VENTILATING

REGISIERS, HEATING AND VENILATING

Auer Register Co., Cleveland, O.
Bergstrom Mfg. Co., Neenah, Wis.
Best Register Co., Milwaukee, Wis.
Forest City Foundries Co., Cleveland, O.
Hart & Cooley Mfg. Co., Chicago, Ill.
Independent Register & Mfg. Co., Cleveland, O.
Kelsey Heating Co., Syracuse, N. Y.
Lamneck Products, Inc., Columbus, O.
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.
Newman Brothers, Inc., Cincinnati, O.
Rock Island Register Co., Rock Island, Ill.
Spear Stove & Heating Co., James, Philadelphia, Pa.
Springman Metal Specialty Co., Detroit, Mich.

Standard Stamping & Perforating Co., Chicago, Ill. Symonds Register Co., St. Louis, Mo.
Tuttle & Bailey, Inc., New Britain, Conn.
Uni-Flo Grille Corp., Detroit, Mich.
U. S. Register Co., Battle Creek, Mich.
Waterloo Register Co., Waterloo, Ia.
Wood-Detroit Mfg. Co., Detroit, Mich.

REGULATING VALVES, GAS PRESSURE

See Valves, Gas Pressure Regulating

REGULATING VALVES, OIL

See Burner, Oil, Accessories

REGULATORS, FURNACE, DRAFT, AUTOMATIC

REGULATORS, FURNACE, DRAFT, AUTOMATIC
Automatic Humidifier Co., Cedar Falls, Ia.
Automatic Products Co., Milwaukee, Wis.
Bailey Meter Co., Cleveland, O.
Bristol Co., Waterbury, Conn.
Cook Electric Co., Chicago, Ill.
Defender Automatic Regulator Co., St. Louis, Mo.
Detroit Lubricator Co., Detroit, Mich.
Electronic Co., Mankato, Minn.
Ferguson Regulator Co., Youngstown, O.
Furn-O-Lator, Inc., South Bend, Ind.
Gem City Stove Co., Dayton, O.
Gold Seal Furnace Co., Minneapolis, Minn.
Hays Corp., Michigan City, Ind.
Kern, Fred M., Detroit, Mich.
Long Controls Co., Inc., Thomas, South Bend, Ind.
Midwest Combustion Equipment Co., Chicago, Ill.
Minneapolis Automatic Draft Regulator Co., Minneapolis,
Minn. Minn.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Modern Heat Regulator Co., Cleveland, O.
Pioneer Heat Regulator Corp., Dayton, O.
Polk Mfg. Co., Madison, Wis.
Safe Automatic Heat Control Co., Detroit, Mich.
Sheer Co., H. M., Quincy, Ill.
Tillery's Little Janitor Clock Co., Newark, N. J.
Tuttle & Balley, Inc., New Britain, Conn.
Walker Sales Corp., St. Joseph, Mo.
White Mfg. Co., St. Paul, Minn.
Wisconsin Humidifier Co., Milwaukee, Wis.

REGULATORS, FURNACE, DRAFT, MANUAL

Bergstrom Mfg. Co., Neenah, Wis. Gem City Stove Co., Dayton, O. Hart & Cooley Mfg. Co., Chicago, Ill. Tuttle & Bailey, Inc., New Britain, Conn. U. S. Register Co., Battle Creek, Mich. Wisconsin Humidifier Co., Milwaukee, Wis.

REPAIRS, STOVE AND FURNACE

REPAIRS, STOVE AND FURNACE

Bardes Range & Foundry Co., E. H., Cincinnati, O. Brauer Supply Co., A. G., St. Louis, Mo. Capitol Furnace & Stove Repair, Indianapolis, Ind. Clark Co., Henry N., Boston, Mass.
Dornback Furnace & Foundry Co., Cleveland, O. Eclipse Metal Mfg. Co., Eden, N. Y.
Excelsior Stove & Mfg. Co., Quincy, Ill.
Fanner Mfg. Co., Cleveland, O.
Faultless Heater Corp., Cleveland, O.
Glenwood Range Co., Taunton, Mass.
Gold Seal Furnace Co., Minneapolis, Minn.
Hart Mfg. Co., Louisville, Ky.
Henry Furnace & Foundry Co., Cleveland, O.
Holland Furnace Co., Holland, Mich.
International Heater Co., Utica, N. Y.
Keasbey & Mattison Co., Ambler, Pa.
Kelsey Heating Co., Syracuse, N. Y.
Maple City Furnace Co., Monmouth, Ill.
Marion Machine Foundry & Supply Co., Marion, Ind.
May-Fiebeger Co., Newark, O.
Mt. Vernon Furnace & Mfg. Co., Mt. Vernon, Ill.
Mueller Furnace Co., L. J., Milwaukee, Wis.
National Foundry & Furnace Co., Dayton, O.
Northwestern Stove Repair Co., Chicago, Ill.
Peerless Foundry Co., Inc., Indianapolis, Ind.
Roper Corp., Geo. D., Rockford, Ill.
Round Oak Furnace Co., Dowagiac, Mich.
Schwab Sons Co., R. J., Milwaukee, Wis.
Southbridge Roofing Co., Inc., Southbridge, Mass.
Standard Foundry & Furnace Co., De Kalb, Ill.
Twentieth Century Heating & Ventilating Co., Akron, O.
Walker & Pratt Mfg. Co., Boston, Mass.
Western Steel Products Co., New Duluth, Minn. (Furnace only).
White-Warner Co., Taunton, Mass.
Williamson Heater Co., Cincinnati, O.
XXth Century Heating & Ventilating Co., Akron, O.

RIDGE ROLLS AND RIDGING

Ames Co., W. R., San Francisco, Cal.
Barnes Metal Products Co., Chicago, Ill.
Beatrice Steel Tank Mfg. Co., Beatrice, Nebr.
Berger Bros. Co., Philadelphia, Pa.
Braden Mfg. Co., Terre Haute, Ind.
California Cornice Works, Inc., Los Angeles, Cal.

Carey Co., Philip, Lockland, O.
Cincinnati Sheet Metal & Roofing Co., Cincinnati, O.
Continental Steel Corp., Kokomo, Ind.
Danzer Metal Works, Inc., Hagerstown, Md.
Decatur Iron & Steel Co., Decatur, Ala.
Downs-Smith Brass & Copper Co., Long Island City, N. Y.
Edwards Mfg. Co., Inc., Cincinnati, O.
Flintkote Corp., New York City.
General Sheet Metal Works, Inc., Bridgeport, Conn.
Globe Iron Roofing & Corrugating Co., Cincinnati, O.
Granite City Steel Co., Granite City, Ill.
Hall Metal Products Co., Torrance, Cal.
Hussey & Co., C. G., Pittsburgh, Pa. (Copper).
Keasbey & Mattison Co., Ambler, Pa.
Klauer Mfg. Co., Dubuque, Ia.
La Crosse Steel Roofing & Corrugating Co., La Crosse, Wis.
Lamb & Ritchie Co., Cambridge, Mass.
Lyon, Conklin & Co., Inc., Baltimore, Md.
Martin Metal Mfg. Co., Wichita, Kan.
Milcor Steel Co., Milwaukee, Wis.
New Delphos Mfg. Co., Delphos, O.
Norman Sheet Metal Mfg. Co., W. F., Nevada, Mo.
Northfield Iron Co., Northfield, Minn.
Obdyke, Inc., Benjamin P., Philadelphia, Pa.
Osborn Co., J. M. & L. A., Cleveland, O.
Parkersburg Iron & Steel Co., Parkersburg, W. Va.
Reeves Mfg. Co., Dover, O.
Robertson Co., H. H., Pittsburgh, Pa.
St. Paul Corrugating Co., St. Paul, Minn.
Schoédinger, F. O., Columbus, O.
Southbridge Roofing Co., Inc., Southbridge, Mass.
Tiffin Art Metal Co., Tiffin, O.
Van Noorden Co., E., Boston, Mass.
Watson Co., Inc., Jas. H., Bradley, Ill.
Wheeling Corrugating Co., Wheeling, W. Va.
Willis Mfg. Co., Galesburg, Ill.
Youngstown Sheet & Tube Co., Youngstown, O.

RIDGING

See Ridge Rolls and Ridging

RINGS, HANGER, BLOW PIPE

See Fittings, Blow Pipe

RIVETS, ALUMINUM

Aluminum Company of America, Pittsburgh, Pa. Bridgeport Screw Co., Bridgeport, Conn. Continental Screw Co., New Bedford, Mass. Hassall, Inc., John, Brooklyn, N. Y. Townsend Co., New Brighton, Pa.

RIVETS, BRASS, COPPER AND IRON

American Brass Co., Waterbury, Conn.
Atlas Bolt & Screw Co., Cleveland, O.
Bridgeport Screw Co., Bridgeport, Conn.
Chase Brass & Copper Co., Waterbury, Conn.
Clendenin Bros., Baltimore, Md.
Continental Screw Co., New Bedford, Mass.
Downs-Smith Brass & Copper Co., Long Island City, N. Y.
Hassall, Inc., John, Brooklyn, N. Y.
Hussey & Co., C. G., Pittsburgh, Pa.
National Screw & Mfg. Co., Cleveland, O.
Revere Copper & Brass, Inc., New York City.
Townsend Co., New Brighton, Pa.

RIVETS, SPECIAL METAL

American Brass Co., Waterbury, Conn.
American Zinc Products Co., Greencastle, Ind.
Atlas Bolt & Screw Co., Cleveland, O.
Byers Co., A. M., Pittsburgh, Pa. (Genuine Wrought Iron).
Continental Screw Co., New Bedford, Mass.
Hassall, Inc., John, Brooklyn, N. Y.
International Nickel Co., New York City (Monel Metal).
Republic Steel Corp., Youngstown, O.
Townsend Co., New Brighton, Pa.

ROD, WELDING

ROD, WELDING

Air Reduction Sales Co., New York City.
American Steel Co., Pittsburgh, Pa.
American Steel & Wire Co., Chicago, Ill.
Central Steel & Wire Co., Chicago, Ill.
Chicago Steel & Wire Co., Chicago, Ill.
Columbia Steel Co., San Francisco, Cal.
General Electric Co., Schenectady, N. Y.
Hobart Bros. Co., Troy, O.
Imperial Brass Mfg. Co., Chicago, Ill.
International Nickel Co., Inc., New York City (Monel Metal).
Lincoln Electric Co., Cleveland, O.
Linde Air Products Co., New York City.
Page Steel & Wire Co., Monessen, Pa.
Republic Steel Corp., Youngstown, O.
Revere Copper & Brass, Inc., New York City.
Roebling & Sons, John A., Trenton, N. J.
Tips, Inc., Baltimore, Md.
Townsend Co., New Brighton, Pa.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Wilson Welder & Metals Co., Inc., North Bergen, N. J.
Youngstown Sheet & Tube Co., Youngstown, O.

ROLL COPPER

See Copper, Plate and Roll
ROLLING MACHINERY, STRIP

See Machinery, Strip Rolling

ROLLS, RIDGE

See Ridge Rolls and Ridging
ROOF CEMENT

See Cement, Roof

ROOF EDGING

ee Edging,

ROOF FLASHINGS

See Flashings, Roo

ROOF INSULATION

See Insulation, Roo

ROOF STRAINERS

ee Strainers, Roos

ROOF VENTILATORS, FAN TYPE

See Ventilators, Roof, Fan ROOF VENTILATORS, GRAVITY

See Ventilators, Roof, Gravity ROOFERS' DERRICKS

See Derricks, Roofers

ROOFERS' DIPPERS

See Dippers, Roofers ROOFERS' HEATERS AND KETTLES

See Heaters and Kettles, Roofers'

ROOFERS' MOPS

See Mop Heads, Roofers'

ROOFERS' TOOLS

See Tools, Roofers

ROOFING, ALUMINUM

Aluminum Company of America, Pittsburgh, Pa. Fingles, Inc., W. A., Baltimore, Md. General Sheet Metal Works, Inc., Bridgeport, Conn. Milcor Steel Co., Milwaukee, Wis. Van Noorden Co., E., Boston, Mass.

ROOFING, ASBESTOS-CEMENT (CORRUGATED)

Carey Co., Philip, Lockland, O.
Creo-Dipt Co., Inc., N. Tonawanda, N. Y.
Horn Co., A. C., Long Island City, N. Y.
Johns-Manville Sales Corp., New York City.
Keasbey & Mattison Co., Ambler, Pa.
Ruberoid Co., New York City.
Standard Asbestos Mfg. Co., Chicago, Ill.

ROOFING, BUILT-UP

Barber Asphalt Co., Philadelphia, Pa.
Barrett Co., New York City.
Bird & Son, Inc., East Walpole, Mass.
Carey Co., Philip, Lockland, O.
Certain-teed Products Corp., New York City.
Flintkote Corp., New York City.
Johns-Manville Sales Corp., New York City.
Koppers Products Co., Pittsburgh, Pa.
Logan-Long Co., Chicago, Ill.
National Mfg. Corp., Tonawanda, N. Y.
Robertson Co., H. H., Pittsburgh, Pa.
Ruberoid Co., New York City.
Truscon Steel Co., Youngstown, O.
U. S. Gypsum Co., Chicago, Ill.

ROOFING CLIPS

See Clips, Fastening for Roofing

ROOFING, COPPER

ROOFING, COPPER

American Brass Co., Waterbury, Conn.
Braden Mfg. Co., Terre Haute, Ind.
Chase Brass & Copper Co., Inc., Waterbury, Conn.
Danzer Metal Works, Inc., Hagerstown, Md.
Decatur Iron & Steel Co., Decatur, Ala.
Downs-Smith Brass & Copper Co., Long Island City, N. Y.
Edwards Mfg. Co., Inc., Cincinnati, O.
Fingles, Inc., W. A., Baltimore, Md.
General Sheet Metal Works, Inc., Bridgeport, Conn.
Hussey & Co., C. G., Pittsburgh, Pa.
Milcor Steel Co., Milwaukee, Wis.
National Brass & Copper Co., Lisbon, O.
Revere Copper & Brass, Inc., New York City.
Robertson Co., H. H., Pittsburgh, Pa.
Southbridge Roofing Co., Inc., Southbridge, Mass.
Van Noorden Co., E., Boston, Mass.
Wheeling Metal & Mfg. Co., Wheeling, W. Va.

ROOFING, IRON AND STEEL

American Rolling Mill Co., Middletown, O. American Sheet and Tin Plate Co., Pittsburgh, Pa. Apollo Steel Co., Apollo, Pa.

Beatrice Steel Tank Mfg. Co., Beatrice, Nebr.
Bethlehem Steel Co., Bethlehem, Pa.
Braden Mfg. Co., Terre Haute, Ind.
Budke Stamping Co., Canonsburg, Pa.
Cincinnati Sheet Metal & Roofing Co., Cincinnati, O.
Columbia Steel Co., San Francisco, Cal.
Danzer Metal Works, Inc., Hagerstown, Md.
Decatur Iron & Steel Co., Decatur, Ala.
Eastern Rolling Mill Co., Baltimore, Md.
Edwards Mfg. Co., Inc., Cincinnati, O.
Fingles, Inc., W. A., Baltimore, Md.
General Sheet Metal Works, Inc., Bridgeport, Conn.
Globe Iron Roofing & Corrugating Co., Cincinnati, O.
Granite City Steel Co., Granite City, Ill.
Ingersoll Steel & Disc Co., Chicago, Ill.
Inland Steel Co., Dubuque, Ia.
LaCrosse Steel Roofing & Corrugating Co., La Crosse, Wis.
Milcor Steel Co., Milwaukee, Wis.
New Delphos Mfg. Co., Delphos, O.
Newport Rolling Mill Co., Newport, Ky.
New York Iron Roofing & Corrugating Co., Jersey City, N. J.
Norman Sheet Metal Mfg. Co., W. F., Nevada, Mo.
Northfield Iron Co., Northfield, Minn.
Parkersburg Iron & Steel Co., Parkersburg, W. Va.
Republic Steel Corp., Youngstown, O.
Robertson Co., H. H., Pittsburgh, Pa.
St. Paul Corrugating Co., St. Paul, Minn.
Southbridge Roofing Co., Inc., Southbridge, Mass.
Superior Sheet Steel Co., Canton, O.
Thifin Art Metal Co., Tiffin, O.
Truscon Steel Co., Youngstown, O.
Van Noorden Co., E., Boston, Mass.
Watson Co., Inc., Jas. II., Bradley, Ill.
Weirton Steel Corp., Wheeling, W. Va.
Wheeling Metal & Mfg. Co., Wheeling, W. Va.
Wheeling Steel Corp., Co., Wheeling, W. Va.
Wheeling Steel Corp., Co., Wheeling, W. Va.
Wheeling Steel Corp., Wheeling, W. Va.
Wheeling Steel Corp., Wheeling, W. Va.
Wheeling Steel Corp. Wheeling, W. Va.

ROOFING, LEAD

Downs-Smith Brass & Copper Co., Long Island City, N. Y., Fingles, Inc., W. A., Baltimore, Md. General Sheet Metal Works, Inc., Bridgeport, Conn. National Lead Co., New York City.
Rochester Lead Works, Rochester, N. Y. Southbridge Roofing Co., Inc., Southbridge, Mass. Standard Rolling Mills, Inc., Brooklyn, N. Y. Van Noorden Co., E., Boston, Mass. Wheeling Corrugating Co., Wheeling, W. Va.

ROOFING NAILS See Nails, Roofing ROOFING SHINGLES

See Shingles and Tile, Metal

ROOFING, SLATE

Bangor-Washington Slate Co., Bangor, Pa.
Buckingham-Virginia Slate Corp., Richmond, Va.
Chapman Slate Co., Bethlehem, Pa.
East Bangor Consolidated Slate Co., East Bangor, Pa.
Elhide Co., Cambridge, Mass.
Knickerbocker Slate Corp., New York City.
Matot, H. A., Poultney, Vt.
North Bangor Slate Co., Bangor, Pa.
Rising & Nelson Slate Co., West Pawlet, Vt.
Sheldon Slate Co., F. C., Granville, N. Y.
Southbridge Roofing Co., Inc., Southbridge, Mass.
Structural Slate Co., Pen Argyl, Pa.
Vendor Slate Co., Inc., Easton, Pa.

ROOFING, TERNE

ROOFING, TERNE

American Rolling Mill Co., Middletown, O.
American Sheet & Tin Plate Co., Pittsburgh, Pa.
Bethlehem Steel Co., Bethlehem, Pa.
Braden Mfg. Co., Terre Haute, Ind.
Cincinnati Sheet Metal & Roofing Co., Cincinnati, O.
Columbia Steel Co., San Francisco, Cal.
Danzer Metal Works, Inc., Hagerstown, Md.
Decatur Iron & Steel Co., Decatur, Ala.
Follansbee Brothers Co., Pittsburgh, Pa.
Globe Iron Roofing & Corrugating Co., Cincinnati, O.
Lyon, Conklin & Co., Inc., Baltimore, Md.
Milcor Steel Co., Milwaukee, Wis.
New Delphos Mfg. Co., Delphos, O.
Tiffin Art Metal Co., Tiffin, O.
Van Noorden Co., E., Boston, Mass.
Watson Co., Inc., Jas. H., Bradley, Ill.
Weirton Steel Co., Weirton, W. Wa.
Wheeling Corrugating Co., Wheeling, W. Va.
Wheeling Steel Corp., Wheeling, W. Va.
Youngstown Sheet & Tube Co., Youngstown, O.

ROOFING, TILE (CLAY & CONCRETE)

OOFING, TILE (CLAY & CONCRETE)

Hood Co., B. Mifflin, Chattanooga, Tenn. Ludowici-Celadon Co., Chicago, Ill.

Murray Tile Co., Cloverport, Ky. National Fireproofing Corp., Pittsburgh, Pa.

ROOFING, TIN

American Sheet & Tin Plate Co., Pittsburgh, Pa.
Bethlehem Steel Co., Bethlehem, Pa.
Bethlehem Steel Co., Bethlehem, Pa.
Braden Mfg. Co., Terre Haute, Ind.
Cincinnati Sheet Metal & Roofing Co., Cincinnati, O.
Danzer Metal Works, Inc., Hagerstown, Md.
Decatur Iron & Steel Co., Decatur, Ala.
General Sheet Metal Works, Inc., Bridgeport, Conn.
Milcor Steel Co., Milwaukee, Wis.
New Delphos Mfg. Co., Delphos, O.
Norman Sheet Metal Mfg. Co., W. F., Nevada, Mo.
St. Paul Corrugating Co., St. Paul, Minn.
Southbridge Roofing Co., Inc., Southbridge, Mass.
Van Noorden Co., E., Boston, Mass.
Weirton Steel Co., Weirton, W. Va.
Wheeling Corrugating Co., Wheeling, W. Va.
Wheeling Steel Corp., Wheeling, W. Va.
Youngstown Sheet & Tube Co., Youngstown, O.
ROOFING, ZINC

ROOFING, ZINC

American Zinc Products Co., Greencastle, Ind.
Barnes Metal Products Co., Chicago, Ill.
Columbia Steel Co., San Francisco, Cal.
General Sheet Metal Works, Inc., Bridgeport, Conn.
Illinois Zinc Co., Peru, Ill.
Milcor Steel Co., Milwaukee, Wis.
New Jersey Zinc Co., New York City.
Southbridge Roofing Co., Inc., Southbridge, Mass.
Van Noorden Co., E., Boston, Mass.
Wheeling Corrugating Co., Wheeling, W. Va.
Wheeling Steel Corp., Wheeling, W. Va.

ROOM COOLERS

See Coolers, Room, Ice and Mechanical

ROOM TEMPERATURE CONTROLS

See Controls, Room Temperature

RUBBISH BURNERS

See Burners, Rubbish

SAVERS, HEAT

Brown Sheet Iron & Steel Co., St. Paul, Minn. Cary Mfg. Co., Waupaca, Wis. Crown Fuel Saver Co., Richmond, Ind. Fuel Savers, Inc., Harrisburg, Pa. Meyers Fuel Saver Co., Inc., Janesville, Wis. Wolff Coal Saver Co., Chicago, Ill.

SCHOOL ROOM HEATERS

See Heaters, School Room

SCREENS

See Cloth, Wire SCREW NAILS

See Nails, Screw, Hardened

SCREWS, DRIVE

Continental Screw Co., New Bedford, Mass.
Corbin Screw Corp., New Britain, Conn.
Diamond Expansion Bolt Co., Garwood, N. J.
Hassall, Inc., John, Brooklyn, N. Y.
National Screw & Mfg. Co., Cleveland, O.
Parker-Kalon Corp., New York City (Hardened Metallic)
Republic Steel Corp., Youngstown, O.
Townsend Co., New Brighton, Pa.
Turner & Seymour Mfg. Co., Torrington, Conn.

SCREWS, SELF-TAPPING
Continental Screw Co., New Bedford, Mass.
Parker-Kalon Corp., New York City
United Screw & Bolt Corp., Cleveland, O.

SCREWS, SHEET METAL

Continental Screw Co., New Bedford, Mass.

Hassall, Inc., John, Brooklyn, N. Y.

New York Iron Roofing & Corrugating Co., Jersey City, N. J.

Parker-Kalon Corp., New York City

Republic Steel Corp., Youngstown, O.

United Screw & Bolt Corp., Cleveland, O.

Watson Co., Inc., Jas. H., Bradley, Ill.

SCREWS, WOOD

Aluminum Company of America, Pittsburgh, Pa. Bridgeport Screw Co., Bridgeport, Conn. Continental Screw Co., New Bedford, Mass. Corbin Screw Corp., New Britain, Conn. Hassall, Inc., John, Brooklyn, N. Y. National Screw & Mfg. Co., Cleveland, O. Republic Steel Corp., Youngstown, O.

SCUPPERS

Covert Co., H. W., New York City
Decatur Iron & Steel Co., Decatur, Ala.
Aeolus Dickinson, Chicago, Ill.
Globe Iron Roofing & Corrugating Co., Cincinnati, O.
Windshield Scupper Co., New York City

SEAMING MACHINES

See Machines, Seaming

SELF-TAPPING SCREWS

See Screws, Self-Tapping

SHAPES, STRUCTURAL See Angles, Bars, Beams, Channels and Tees (Structural Shapes)

SHEARS, HAND AND BENCH

See Snips and Shears, Bench and Hand SHEARS AND PUNCHES COMBINED

See Punches and Shears Combined

SHEARS, POWER

SHEARS, POWER

Armstrong-Blum Mfg. Co., Chicago, Ill.
Baldwin-Southwark Corp., Philadelphia, Pa.
Bertsch & Co., Inc., Cambridge City, Ind.
Bliss Co., E. W., Toledo, O.
Buffalo Forge Co., Buffalo, N. Y.
Cincinnati Shaper Co., Cincinnati, O.
Cleveland Punch & Shear Works, Cleveland, O.
Dreis & Krump Mfg. Co., Chicago, Ill.
Hendley & Whittemore Co., Beloit, Wis.
Hilyard-Newbold Co., Norristown, Pa.
Kane & Roach, Inc., Syracuse, N. Y.
Lake Erie Engineering Corp., Buffalo, N. Y.
Marshalltown Mfg. Co., Marshalltown, Ia.
New Albany Machine Mfg. Co., New Albany, Ind.
Niagara Machine & Tool Works, Buffalo, N. Y.
Peck, Stow & Wilcox Co., Southington, Conn.
Pels & Co., Inc., Henry, New York City
Quickwork Co., St. Marys, O.
Rock River Machine Co., Janesville, Wis.
Stanley Electric Tool Co., New Britain, Conn.
Streine Tool & Mfg. Co., New Bremen, O.
Toledo Machine & Tool Co., Toledo, O.
Wagner, C. DeWitt, Cedar Rapids, Ia.
Yoder Co., Cleveland, O.

SHEET METAL ORNAMENTS

SHEET METAL ORNAMENTS

See Ornaments, Sheet Metal SHEET METAL, PERFORATED

See Metals, Perforated, Sheet and Plate

SHEET METAL SCREWS

See Screws, Sheet Metal

SHEETS, ALLOY

Allegheny Steel Co., Brackenridge, Pa.
American Rolling Mill Co., Middletown, O.
Crucible Steel Co. of America, New York City
Ingersoll Steel & Disc Co., Chicago, Ill.
Republic Steel Corp., Youngstown, O.
Rustless Iron Corp. of America, New York City
Wood Steel Co., Alan, Conshohocken, Pa.
Youngstown Sheet & Tube Co., Youngstown, O.

SHEETS, ALUMINUM

Aluminum Company of America, Pittsburgh, Pa. Fairmont Aluminum Co., Fairmont, W. Va.

SHEETS, COPPER

American Brass Co., Waterbury, Conn.
Chase Brass & Copper Co., Waterbury, Conn.
Hussey & Co., C. G., Pittsburgh, Pa.
National Brass & Copper Co., Lisbon, O.
Revere Copper & Brass, Inc., New York City
Wheeling Metal & Mfg. Co., Wheeling, W. Va.

SHEETS, COPPER BEARING STEEL

SHEETS, COPPER BEARING STEEL

American Rolling Mill Co., Middletown, O.

American Sheet & Tin Plate Co., Pittsburgh, Pa.

Apollo Steel Co., Apollo, Pa.

Bethlehem Steel Co., Bethlehem, Pa.

Columbia Steel Co., San Francisco, Cal.

Continental Steel Corp., Kokomo, Ind.

Eastern Rolling Mill Co., Battimore, Md.

Edwards Mfg. Co., Inc., Cincinnati, O.

Follansbee Brothers Co., Pittsburgh, Pa.

Globe Iron Roofing & Corrugating Co., Cincinnati, O.

Newport Rolling Mill Co., Newport, Ky.

New York Iron Roofing & Corrugating Co., Jersey City, N. J.

Otis Steel Co., Cleveland, O.

Reeves Mfg. Co., Dover, O.

Republic Steel Corp., Youngstown, O.

Superior Sheet Steel Co., Canton, O.

Taylor Co., N. & G., Cumberland, Md.

Weirton Steel Co., Alan, Conshohocken, Pa.

Youngstown Sheet & Tube Co., Youngstown, O.

SHEETS, COPPER, LEAD COATED

SHEETS, COPPER, LEAD COATED

American Brass Co., Waterbury, Conn.

Chase Brass & Copper Co., Waterbury, Conn.

Hussey & Co., C. G., Pittsburgh, Pa.

National Brass & Copper Co., Lisbon, O.

Revere Copper & Brass, Inc., New York City

Wheeling Metal & Mfg. Co., Wheeling, W. Va.

SHEETS, GALVANNEALED

American Sheet & Tin Plate Co., Pittsburgh, Pa. Republic Steel Corp., Youngstown, O. Superior Sheet Steel Co., Canton, O. Youngstown Sheet & Tube Co., Youngstown, O.

SHEETS, IRON AND STEEL

(Polished and Blue, Corrugated and Plain, Black, Terne and Galvanized)

(Polished and Blue, Corrugated and Plain, Black, Terne and Galvanized)

American Rolling Mill Co., Middletown, O. American Sheet & Tin Plate Co., Pittsburgh, Pa. Apollo Steel Co., Apollo, Pa. Beatrice Steel Tank Mfg. Co., Beatrice, Nebr. Bethlehem Steel Co., Bethlehem, Pa. Budke Stamping Co., Canonsburg, Pa. Byers Co., A. M., Pittsburgh, Pa. (Genuine Wrought Iron) Columbia Steel Cop., Kokomo, Ind. Eastern Rolling Mill Co., Baltimore, Md. Edwards Mfg. Co., Inc., Cincinnati, O. Follansbee Brothers Co., Pittsburgh, Pa. Globe Iron Roofing & Corrugating Co., Cincinnati, O. Granite City Steel Co., Chicago, Ill. Mahoning Valley Steel Co., Niles, O. Marion Machine Foundry & Supply Co., Marion, Ind. New Delphos Mfg. Co., Delphos, O. Newport Rolling Mill Co., Newport, Ky. Newton Steel Co., Youngstown, O. New York Iron Roofing & Corrugating Co., Jersey City, N. J. Northfield Iron Co., Northfield, Minn. Otis Steel Co., Cleveland, O. Parkersburg Iron & Steel Co., Parkersburg, W. Va. Reading Iron Co., Philadelphia, Pa. (Genuine Wrought Iron) Reeves Mfg. Co., Dover, O. Republic Steel Corp., Youngstown, O. Superior Sheet Steel Co., Canton, O. Taylor Co., N. & G., Cumberland, Md. Weirton Steel Co., Weirton, W. Va. West Leechburg Steel Co., Wheeling, W. Va. Wheeling Corrugating Co., Wheeling, W. Va. Wheeling Steel Corp., Wheeling, W. Va. Wheeling Steel Co., Alan, Conshohocken, Pa. Youngstown, Sheet & Tube Co., Youngstown, O. SHEETS, LEAD

Belmont Smelting & Refining Works, Inc., Brooklyn, N. Y.

SHEETS, LEAD

Belmont Smelting & Refining Works, Inc., Brooklyn, N. Y. Eagle-Picher Lead Co., Cincinnati, O. National Lead Co., New York City. Rochester Lead Works, Rochester, N. Y. Standard Rolling Mills, Inc., Brooklyn, N. Y.

SHEETS, MONEL METAL

International Nickel Co., Inc., New York City.

SHEETS, SPECIAL METALS

(Nickel Zinc, Chrome Zinc, Nickel Coated Copper, Chromium Coated Copper, Nickel Coated Steel, Chromium Coated Steel, Chromium Coated Nickel Silver, etc.)

American Nickeloid Co., Peru, Ill.

Apollo Co., La Salle, Ill.

Superior Sheet Steel Co., Canton, O.

SHEETS, STAINLESS

Allegheny Steel Co., Brackenridge, Pa.
American Rolling Mill Co., Middletown, O.
American Sheet & Tin Plate Co., Pittsburgh, Pa.
Columbia Steel Co., San Francisco, Cal.
Crucible Steel Co. of America, New York City.
Ludlum Steel Co., Watervilet, N. Y.
Panybilly Steel Corp. Vaugestown Republic Steel Corp., Youngstown, O. Rustless Iron Corp. of America, New York City.

SHEETS, TIN

American Sheet & Tin Plate Co., Pittsburgh, Pa.

American Tin & Terne Plate Co., Philadelphia, Pa.
Belmont Smelting & Refining Works, Inc., Brooklyn, N. Y.
Bethlehem Steel Co., Bethlehem, Pa.
Canton Steel Ceiling Co., Canton, O.
Follansbee Brothers Co., Pittsburgh, Pa.
Republic Steel Corp., Youngstown, O.
Taylor Co., N. & G., Cumberland, Md.
Weirton Steel Co., Weirton, W. Va.
Wheeling Corrugating Co., Wheeling, W. Va.
Wheeling Steel Corp., Wheeling, W. Va.
Youngstown Sheet & Tube Co., Youngstown, O.

SHEETS, TWO-PLY, STAINLESS

Crucible Steel Co. of America, New York City. Ingersoll Steel & Disc Co., Chicago, Ill. Republic Steel Corp., Youngstown, O. Superior Steel Corp., Pittsburgh, Pa.

SHEETS, ZINC

American Zinc Products Co., Greencastle, Ind. Apollo Co., La Salle, Ill. Barnes Metal Products Co., Chicago, Ill.

Belmont Smelting & Refining Works, Inc., Brooklyn, N. Y. Hegeler Zinc Co., Danville, Ill.
Illinois Zinc Co., Peru, Ill.
New Jersey Zinc Co., New York City.
Wheeling Corrugating Co., Wheeling, W. Va.
Wheeling Steel Corp., Wheeling, W. Va.

SHIELDS, WARM AIR REGISTER
Beh & Co., Inc., New York City.
Gammeter Co., W. F., Cadiz, O. (with Humidifier).
Hall-Neal Furnace Co., Indianapolis, Ind.
Henry Furnace & Foundry Co., Cleveland, O.
Peerless Foundry Co., Inc., Indianapolis, Ind.
Schoedinger, F. O., Columbus, O.

SHINGLES, ASBESTOS-CEMENT

Carey Co., Philip, Cincinnati, O.
Certain-teed Products Corp., New York City.
Creo-Dipt Co., Inc., North Tonawanda, N. Y.
Johns-Manville Sales Corp., New York City.
Keasbey & Mattison Co., Ambler, Pa.
Ruberoid Co., New York City.
Standard Asbestos Mfg. Co., Chicago, Ill.

Standard Asbestos Mfg. Co., Chicago, Ill.

SHINGLES, ASPHALT

Barber Asphalt Co., Philadelphia, Pa.

Bird & Son., Inc., East Walpole, Mass.

Carey Co., Philip, Cincinnati, O.

Certain-teed Products Corp., New York City.

Creo-Dipt Co., Inc., North Tonawanda, N. Y.

Flintkote Corp., New York City.

Johns-Manville Sales Corp., New York City.

National Mfg. Corp., Tonawanda, N. Y.

National Sheet Metal Rfg. Co., Elizabeth, N. J.

Ruberoid Co., New York City.

U. S. Gypsum Co., Chicago, Ill.

SHINGLES AND TILE, METAL

Aluminum Company of America, Pittsburgh, Pa. (Alumnum).

Ames Co., W. R., San Francisco, Cal.
Barnes Metal Products Corp., New York City.
Certain-teed Products Corp., New York City.
Cincinnati Sheet Metal & Roofing Co., Cincinnati, O.
Columbian Enameling & Stamping Co., Terre Haute, Ind..
Edwards Mfg. Co., Inc., Cincinnati, O.
Fingles Inc., W. A., Baltimore, Md.
Globe Iron Roofing & Corrugating Co., Cincinnati, O.
International Steel Co., Evansville, Ind.
Kelly Co., Wm. J., Brooklyn, N. Y.
Martin Metal Mfg. Co., Wichita, Kans.
Milcor Steel Co., Milwaukee, Wis.
Miller & Doing, Inc., Brooklyn, N. Y.
National Sheet Metal Rfg. Co., Elizabeth, N. J.
Norman Sheet Metal Rfg. Co., Elizabeth, N. J.
Norman Sheet Metal Rfg. Co., St. Paul, Minn.
Southern States Iron Roofing Co., Savannah, Ga.
Thomas & Armstrong Co., London, O.
Tiffin Art Metal Co., Tiffin, O.
Truscon Steel Co., Youngstown, O.
Wheeling Corrugating Co., Wheeling, W. Va.
Wheeling Metal & Mfg. Co., Los Angeles, Cal.
SHOES, CONDUCTOR Aluminum Company of America, Pittsburgh, Pa. (Alumi-

SHOES, CONDUCTOR

See Fittings and Accessories, Conductor

SHUTTERS, FIRE

See Doors and Shutters, Fire

SKYLIGHT LIFTS

See Lifts, Skylight

SKYLIGHTS

SKYLIGHTS

Aluminum Company of America, Pittsburgh, Pa. Anderson Mfg. Co., Des Moines, Ia. Architectural Metal Products Co., Cincinnati, O. Asbestos Insulating Co., Norristown, Pa. Beatrice Steel Tank Mfg. Co., Beatrice, Nebr. Berger Co., L. D., Philadelphia, Pa. Biersach & Niedermeyer Co., Milwaukee, Wis. Burt Mfg. Co., Akron, O. California Cornice Works, Inc., Los Angeles, Cal. Cincinnati Sheet Metal & Roofing Co., Cincinnati, O. Clay Equipment Corp., Cedar Falls, Ia. Danzer Metal Works, Inc., Hagerstown, Md. Decatur Iron & Steel Co., Decatur, Ala. Drouve Co., G., Fairfield, Conn. Edwards Mfg. Co., Inc., Cincinnati, O. Falstrom Co., Passaic, N. J. Fingles Inc., W. A., Baltimore, Md. General Sheet Metal Works, Inc., Bridgeport, Conn. Globe Iron Roofing & Corrugating Co., Cincinnati, O. Herrmann & Grace Co., Brooklyn, N. Y. Hudson Mfg. Co., H. D., Minneapolls, Minn. International Steel Co., Evansville, Ind. Klauer Mfg. Co., Dubuque, Ia. Kleenaire Filter Co., Stevens Point, Wis. Kuhnla, Inc., August, Brooklyn, N. Y. Lee & Son Co., Thomas, Cincinnati, O. Lupton's Sons Co., David, Philadelphia, Pa.

Lyman Co., H. B., Southampton, Mass.
Martin Metal Mfg. Co., Wichita, Kans.
Meyer & Bro. Co., F., Peoria, Ill.
Milcor Steel Co., Milwaukee, Wis.
Norman Sheet Metal Mfg. Co., W. F., Nevada, Mo.
Perkinson & Brown, Chicago, Ill.
Riester & Thesmacher Co., Cleveland, O.
Robertson Co., H. H., Pittsburgh, Pa.
St. Paul Corrugating Co., St. Paul, Minn.
Schoedinger, F. O., Columbus, O.
Southbridge Roofing Co., Inc., Southbridge, Mass.
Tiffin Art Metal Co., Tiffin, O.
Van Noorden Co., E., Boston, Mass.
Vent-O-Lite Co., Chicago, Ill.
Ward Co., H. H., Chester, Pa.
Watson Co., Inc., Jas. H., Bradley, Ill.
Western Steel Products Co., New Duluth, Minn.
Wheeling Metal & Mfg. Co., Wheeling, W. Va.
Willis Mfg. Co., Galesburg, Ill.
York Corrugating Co., York, Pa.

SLATE ROOFING

SLATE ROOFING See Roofing, Slate
SLITTING MACHINES See Machines, Slitting SMOKE PIPE

SMOKE PIPE DAMPERS See Dampers, Smoke Pipe SMOKE PIPE FITTINGS

See Fittings and Accessories, Smoke Pipe

SNIPS AND SHEARS, BENCH AND HAND

SNIPS AND SHEARS, BENCH AND I Bartlett Mfg. Co., Detroit, Mich. Beverly Throatless Shear Co., Chicago, Ill. Clauss Shear Co., Fremont, O. Crescent Tool Co., Jamestown, N. Y. Emrich, Phil., Cincinnati, O. Marshalltown Mfg. Co., Marshalltown, Ia. Niagara Machine & Tool Works, Buffalo, N. Y. Peck, Stow & Wilcox Co., Southington, Conn. Rupp Forge & Shear Co., Cleveland, O. Viking Shear Co., Erie, Pa. Western Blower Co., Seattle, Wash. Whitney Metal Tool Co., Rockford, Ill. Wiss & Sons Co., J., Newark, N. J.

SNOW GUARDS

See Guards, Snow

SOLDER

American Solder & Flux Co., Philadelphia, Pa.
Belmont Smelting & Refining Works, Inc., Brooklyn, N. Y.
Bergstrom Mfg. Co., Neenah, Wis.
Downs-Smith Brass & Copper Co., Long Island City, N. Y.
Eagle-Picher Lead Co., Cincinnati, O.
Empire Metal Co., Syracuse, N. Y.
Gardiner Metal Co., Chicago, Ill.
Johnston Tin Foil & Metal Co., St. Louis, Mo.
Kester Solder Co., Chicago, Ill.
Merchant & Evans Co., Philadelphia, Pa.
National Lead Co., New York City.
Osborn Co., J. M. & L. A., Cleveland, O.
Pfanstiehl Chemical Co., Waukegan, Ill.
Rochester Lead Works, Rochester, N. Y.
Ruby Chemical Co., Columbus, O.
Ryerson & Son, Inc., Joseph T., Chicago, Ill.
Standard Rolling Mills, Inc., Brooklyn, N. Y.
Wagner, C., DeWitt, Cedar Rapids, Ia.
Watson Co., Inc., Jas. H., Bradley, Ill.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

SOLDERING COPPERS

SOLDERING COPPERS

See Coppers, Soldering SOLDERING FLUX

See Flux, Soldering SOLDERING FURNACES

See Furnaces, Soldering SOLDERING IRON HANDLES

See Handles, Soldering In SOLDERING IRONS

See Coppers, Soldering SOLDERING TORCHES

See Torches, Soldering SOLENOID VALVES

SOOT DESTROYERS

SOUND AND VIBRATION ISOLATION

See Isolation, Sound and Vibration SPECIAL METAL RIVETS

See Rivets, Special Metal

SPECIAL SHEETS

See Sheets, Special Metals
SPOT WELDERS

See Welders, Electric

SPRAY NOZZLES

e Nozzles, Water Spr STAINLESS SHEETS

See Sheets, Stainless
STEEL CEILINGS Stainless

See Ceilings, Metal
STEEL PLATES

See Plates, Steel STEEL ROOFING

See Roofing, Iron and Steel
STEEL SHEETS

See Sheets, Iron and Steel
STEEL SHEETS, COPPER BEARING

See Sheets, Copper Bearing Steel
STEP LADDERS

See Ladders, Step and Extension STOKER CONTROLS

See Controls, Stoker

STOKERS, DOMESTIC

STOKERS, DOMESTIC

Apex Tool Co., Inc., Bridgeport, Conn.
Automatic Stoker Corp., Indianapolis, Ind.
Bardes Range & Foundry Co., E. H., Cincinnati, O.
Beckley Perforating Co., Garwood, N. J.
Black Servant Mfg. Co., St. Louis, Mo.
Bluffton Mfg. Co., Findlay, O.
Brownell Co., Dayton, O.
Burnham Stoker, Inc., Vancouver, Wash.
Burnwell Corp., Allentown, Pa.
Butler Mfg. Co., Kansas City, Mo.
Columbus Metal Products, Inc., Columbus, O.
Combustioneer, Inc., Springfield, O.
Cruikshank Utilities, V. M., Shamokin, Pa.
Domestic Stoker Co., New York City.
Economy Stoker Co., Salt Lake City, Utah.
Eddy Stoker Corp., Chicago, Ill.
Electro-Stoke Mfg. Co., Indianapolis, Ind.
Fairbanks, Morse & Co., Chicago, Ill.
Favorite Stove & Range Co., Plqua, O.
Finnell Rotary Stokers, Inc., Elkhart, Ind.
Firemaster Stoker Co., Salt Lake City, Utah.
Frederick Iron & Steel Co., Frederick, Md.
Germer Stove Co., Erle, Pa.
Gray & Murdock Mfg. Co., Salt Lake City, Utah.
Hamilton Automatic Stoker Corp., Hamilton, O.
Heating Assurance, Inc., Spokane, Wash.
Holcomb & Hoke Mfg. Co., Cleveland, O.
Johnston-Jennings Co., Cleveland, O.
Johnston-Jennings Co., Cleveland, O.
Modern Coal Burner Co., Chicago, Ill.
Morrissey & Co., Chicago, Ill.
Motrostokor Corp., New York City.
Murray-Ohlo Mfg. Co., Cleveland, O.
National Steam Pump Co., Upper Sandusky, O.
Paragon Kol-Master Corp., Oregon, Ill.
Redi-Automatic Coal Burners, Inc., Spokane, Wash.
Reliance Electric & Engineering Co., Cleveland, O.
Riddell Stoker Co., St. Louis, Mo.
Union Metal Mfg. Co., Canton, O.
United Stoker Corp., Lafayette, Ind.
Whiting Corp., Harvey, Ill.
Will-Burt Co., Orrville, O.

STOKERS, INDUSTRIAL

STOKERS, INDUSTRIAL

American Engineering Co., Philadelphia, Pa.
Black Servant Mfg. Co., St. Louis, Mo.
Bluffton Mfg. Co., Findlay, O.
Butler Mfg. Co., Kansas City, Mo.
Canton Stoker Corp., Canton, O.
Columbus Metal Products, Inc., Columbus, O.
Combustion Engineering Co., Inc., New York City.
Combustioneer, Inc., Springfield, O.
Consolidated Car-Heating Co., Inc., Albany, N. Y.
Cotta Transmission Corp., Rockford, Ill.
Delta Stoker Co., North Chicago, Ill.
Detroit Stoker Co., Detroit, Mich.
Economy Stoker Co., Salt Lake City, Utah.
Eddy Stoker Corp., Chicago, Ill.
Electro-Stoke Mfg. Co., Indianapolis, Ind.
Fairbanks, Morse & Co., Chicago, Ill.
Firemaster Stoker Co., Salt Lake City, Utah.
Flynn & Emrich Co., Baltimore, Md.
Frederick Iron & Steel Co., Frederick, Md.

Hamilton Automatic Stoker Corp., Hamilton, O. Hare Stoker Corp., Detroit, Mich. Holcomb & Hoke Mfg. Co., Indianapolis, Ind. Iron Fireman Mfg. Co., Cleveland, O. McClave-Brooks Co., Scranton, Pa. Marion Machine Foundry & Supply Co., Marion, Ind. Mesker & Co., Geo. L., Evansville, Ind. Modern Coal Burner Co., Chicago, Ill. Morrissey & Co., Chicago, Ill. Morrissey & Co., Chicago, Ill. National Steam Pump Co., Upper Sandusky, O. Orr & Sembower, Inc., Reading, Pa. Patterson Foundry & Machine Co., East Liverpool, O. Redi-Automatic Coal Burners, Inc., Spokane, Wash. Riddell Stoker Co., Washington, D. C. Schwitzer-Cummins Co., Indianapolis, Ind. Stok-A-Fire Co., St. Louis, Mo. United Stoker Corp., Lafayette, Ind. Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. Wheland Co., Chattanooga, Tenn. Whiting Corp., Harvey, Ill. Whitty Mfg. Co., Inc., Boston, Mass. Will-Burt Co., Orrville, O.

STOVE BOLTS See Bolts, Stove STOVE PIPE

STOVE PIPE FITTINGS

See Fittings and Accessories, Stove Pipe STOVE REPAIRS

See Repairs, Stove and Furnace

See Fittings and Accessories, Conductor

STRAINERS FOR OIL BURNERS

See Burner, Oil, Accessories

STRAINERS, ROOF

STRAINERS, ROOF

Barnes Metal Products Co., Chicago, Ill.
Danzer Metal Works, Inc., Hagerstown, Md.
Downs-Smith Brass & Copper Co., Long Island City, N. Y.
Edwards Mfg. Co., Inc., Cincinnati, O.
Globe Iron Roofing & Corrugating Co., Cincinnati, O.
Grand Rapids Wire Products Co., Grand Rapids, Mich.
Lamb & Ritchie Co., Cambridge, Mass.
Levow, David, New York City.
Milcor Steel Co., Milwaukee, Wis.
Schoedinger, F. O., Columbus, O.
Southbridge Roofing Co., Inc., Southbridge, Mass.
Van Noorden Co., E., Boston, Mass.
Western Wire & Iron Works, Inc., Chicago, Ill.
Wheeling Corrugating Co., Wheeling, W. Va.

STRAPS, LEADER

See Fittings and Accessories, Conductor STRIP ROLLING MACHINERY See Machinery, Strip Rolling

STRUCTURAL SHAPES

See Angles, Bars, Beams, Channels and Tees (Structural Shapes)

Shapes)

SURFACE, HEAT TRANSFER

Aerofin Corp., Newark, N. J.
American Radiator Co., New York City.
Bush Mfg. Co., Hartford, Conn.
G & O Mfg. Co., New Haven, Conn.
McCord Radiator & Mfg. Co., Detroit, Mich.
Thermal Units Mfg. Co., Chicago, Ill.
Unit Heater & Cooler Co., Wausau, Wis.
Whitlock Coil Pipe Co., Hartford, Conn.
Winchester Repeating Arms Co., New Haven, Conn.
Wolverine Tube Co., Detroit, Mich.
Young Radiator Co., Racine, Wis.

SWEEPS AND HOODS, BLOW PIPE

See Hoods and Sweeps, Blow Pipe

SWITCHES, ELECTRIC

Cook Electric Co., Chicago, Ill.
Electric Controller & Mfg. Co., Cleveland, O.
General Electric Co., Schenectady, N. Y.
Hart Mfg. Co., Hartford, Conn.
Penn Electric Switch Co., Des Moines, Ia.
Sangamo Electric Co., Springfield, Ill. (Time)
Stat-Amatic Instrument & Appliance Co., Hartford, Conn.
Struthers Dunn, Inc., Philadelphia, Pa. (Magnetic)
Tork Clock Co., Inc., Mt. Vernon, N. Y. (Time Clocks)
Ward Leonard Electric Co., Mt. Vernon, N. Y.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. TEES

See Angles, Bars, Beams, Channels and Tees (Structural Shapes)
TEES, FURNACE PIPE

See Pipe, Furnace, Fittings and Accessories

TEMPERATURE CONTROLS

See Controls, Room Temperature
TERNE ROOFING

Roofiing.

THERMOSTATS
See Controls, Room Temperature
TILE ROOFING

See Roofing, Tile TIN ROOFING

See Roofing, Tin

See Sheets, Tin

See Sheets, Tin

See Clips and Tips, Damper TOGGLE BOLTS

See Bolts, Toggle and Anchor TONGS, HANGER See Tools, Metal Workers'

TOOLS, FIRING

Bardes Range & Foundry Co., E. H., Cincinnati, O. Cook & Chick Co., Chicago, Ill.
Leetonia Tool Co., Leetonia, O.
Leibfried Mfg. Corp., C. H., Brooklyn, N. Y.
U. S. Pressed Steel Products Co., Kalamazoo, Mich.

U. S. Pressed Steel Products Co., Kalamazoo, Mic

TOOLS, METAL WORKERS'

Burritt & Bro., O. W., Weedsport, N. Y.
Danzer Metal Works, Inc., Hagerstown, Md.
Diamond Expansion Bolt Co., Garwood, N. J.
Dreis & Krump Mfg. Co., Chicago, Ill.
Emrich, Phil., Cincinnati, O.
Johnson, Inc., William, Newark, N. J.
National Machine Tool Co., Racine, Wis.
Niagara Machine & Tool Works, Buffalo, N. Y.
Peck, Stow & Wilcox Co., Southington, Conn.
Quality Tools Corp., New Wilmington, Pa.
Rock River Machine Co., Janesville, Wis.
Stanley Electric Tool Co., New Britain, Conn.
Warren Handle Works Co., Cortland, O. (Mallets)

Warren Handle Works Co., Cortland, O. (Mallets)

TOOLS, ROOFERS'

Ajax Building Bracket Co., Cleveland Heights, O. (Hammers)
Burritt & Bro., O. W., Weedsport, N. Y.
Eiermann Floor Scraper Co., Brooklyn, N. Y.
Emrich, Phil., Cincinnati, O.
Niagara Machine & Tool Works, Buffalo, N. Y.
Peck, Stow & Wilcox Co., Southington, Conn.
Sheldon Slate Co., F. C., Granville, N. Y.

TOPS, CHIMNEY

See Capte and Tabs Chimney

See Caps and Tops, Chimney

TORCHES, BLOW

Bernz Co., Inc., Otto, Rochester, N. Y.
Clayton & Lambert Mfg. Co., Detroit, Mich.
Diener Mfg. Co., Geo. W., Chicago, Ill.
Everhot Mfg. Co., Maywood, Ill.
Harris Calorific Co., Cleveland, O.
Hauck Mfg. Co., Brooklyn, N. Y.
Huffman Mfg. Co., Dayton, O.
Imperial Brass Mfg. Co., Chicago, Ill.
Kilborn & Bishop Co., New Haven, Conn.
Liquefied Gas Appliance Co., Mars, Pa.
Ridgely Trimmer Co., Springfield, O.
Torchweld Equipment Co., Chicago, Ill.
Turner Brass Works, Sycamore, Ill.
Unique Mfg. Co., Inc., Chicago, Ill.
Wall Mfg. Supply Co., P., Pittsburgh, Pa.

Wall Mfg. Supply Co., P., Pittsburgh, Pa.

TORCHES, BRAZING, CUTTING, WELDING, OXY-ACETYLENE

Air Reduction Sales Co., New York City.
Bastian-Blessing Co., Chicago, Ill.
Bernz Co., Inc., Otto, Rochester, N. Y.
Burdett Mfg. Co., Chicago, Ill.
Carbo-Oxygen Co., Pittsburgh, Pa.
Harris Calorific Co., Cleveland, O.
Imperial Brass Mfg. Co., Chicago, Ill.
Linde Air Products Co., New York City.
Milburn Co., Alexander, Baltimore, Md.
Miller Equipment Co., Cincinnati, O.
Minn-Kota Foundry & Mfg. Co., Fargo, N. Dak. (Brazing)
Smith Welding Equipment Corp., Minneapolis, Minn.
Tips, Inc., Baltimore, Md.
Torchweld Equipment Co., Chicago, Ill.
Ward Co., H. H., Chester, Pa.

TORCHES, SOLDERING

TORCHES, SOLDERING
Bernz Co., Inc., Otto, Rochester, N. Y.
Clayton & Lambert Mfg. Co., Detroit, Mich.
Detroit Torch & Mfg. Co., Detroit, Mich.
Electric Soldering Iron Co., New York City.

Everhot Mfg. Co., Maywood, Ill.
Harris Calorific Co., Cleveland, O.
Hones, Inc., Charles A., Baldwin, N. Y.
Huffman Mfg. Co., Dayton, O.
Imperial Brass Mfg. Co., Chicago, Ill.
Johnson Gas Appliance Co., Cedar Rapids, Ia.
Linde 'Air Products Co., New York City.
Miller Equipment Co., Cincinnati, O.
Minn-Kota Foundry & Mfg. Co., Fargo, N. Dak.
Smith Welding Equipment Corp., Minneapolis, Minn.
Torchweld Equipment Co., Chicago, Ill.
Wall Mfg. Supply Co., P., Pittsburgh, Pa.

TRANSFORMERS See Burner, Oil, Accessories TRANSMISSION DRIVES

See Drives, Transmission
UNITS, AIR CONDITIONING

See Air Conditioning Units
VACUUM CLEANERS FOR FURNACES

See Cleaners, Furnace, Vacuum

VALLEYS, METAL

Edwards Mfg. Co., Inc., Cincinnati, O. LaCrosse Steel Roofing & Corrugating Co., LaCrosse, Wis. Milcor Steel Co., Milwaukee, Wis.

VALVES, GAS PRESSURE REGULATING

VALVES, GAS PRESSURE REGULATING
Barber Gas Burner Co., Cleveland, O.
Bristol Co., Waterbury, Conn.
Bryant Corp., C. L., Cleveland, O.
Carbo-Oxygen Co., Pittsburgh, Pa.
Detroit Lubricator Co., Detroit, Mich.
Lake Erie Engineering Corp., Buffalo, N. Y.
Pacific Gas Radiator Co., Huntington Park, Cal.
Payne Furnace & Supply Co., Beverly Hills, Cal.
Pittsburgh Equitable Meter Co., Pittsburgh, Pa.
Roberts-Gordon Appliance Corp., Buffalo, N. Y.
Robertshaw Thermostat Co., Youngwood, Pa.
Sheer Co., H. M., Quincy, Ill.
Surface Combustion Corp., Toledo, O.
Tagliabue Mfg. Co., C. J., Brooklyn, N. Y.
Torchweld Equipment Co., Chicago, Ill.
United Electric Controls Co., Boston, Mass.

VALVES, SOLENOID

VALVES, SOLENOID

Alco Valve Co., Inc., St. Louis, Mo.
Automatic Products Co., Milwaukee, Wis.
Barber-Colman Co., Rockford, Ill.
Bristol Co., Waterbury, Conn.
Cary Mfg. Co., Waupaca, Wis.
Detroit Lubricator Co., Detroit, Mich.
Friez & Sons, Inc., Julian P., Baltimore, Md.
General Electric Co., Schenectady, N. Y.
Lake Erie Engineering Corp., Buffalo, N. Y.
Mercoid Corp., Chicago, Ill.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Powell Co., William, Cincinnati, O.
R-S Products Corp., Philadelphia, Pa.
Russell Electric Products Corp., Rochester, N. Y.
York Ice Machinery Corp., York, Pa.

VENTILATING BLOWERS

See Blowers, Exhaust and Ventilating VENTILATING CONTROLS

See Controls, Heating, Ventilating & Air Conditioning Systems
VENTILATING FANS

See Fans, Ventilatin VENTILATING LOUVRES
See Louvres, Ventilating
VENTILATING REGISTERS

See Filters, Air, Ventilation

VENTILATORS, CEILING

VENTILATORS, CEILING

Allen Corp., Detroit, Mich.
Auer Register Co., Cleveland, O.
Barret Regulation Engineers Co., Inc., Cleveland Heights, O.
Danzer Metal Works, Inc., Hagerstown, Md.
Fingles, Inc., W. A., Baltimore, Md.
Guth Co., Edwin F., St. Louis, Mo.
Hart & Cooley Mfg. Co., Chicago, Ill.
Hartzell Propeller Fan Co., Piqua, O.
Hudson Mfg. Co., H. D., Minneapolis, Minn.
Independent Register & Mfg. Co., Cleveland, O.
King Ventilating Co., Owatonna, Minn.
Milcor Steel Co., Milwaukee, Wis.
Norman Sheet Metal Mfg. Co., W. F., Nevada, Mo.
St. Paul Corrugating Co., St. Paul, Minn.
Tuttle & Bailey, Inc., New Britain, Conn.
Waterloo Register Co., Waterloo, Ia.

VENTILATORS. KITCHEN EXHAUST

VENTILATORS, KITCHEN EXHAUST

Ailen Corp., Detroit, Mich. American Blower Corp., Detroit, Mich. Electrovent Corp., Detroit, Mich.

General Regulator Corp., Chicago, Ill. Ilg Eectric Ventilating Co., Chicago, Ill. Peerless Electric Co., Warren O. Victor Electric Products, Inc., Cincinnati, O.

VENTILATORS, ROOF, FAN

Victor Electric Products, Inc., Cincinnati, O.

VENTILATORS, ROOF, FAN

Airtherm Mfg. Co., St. Louis, Mo.

Allen Corp., Detroit, Mich.

American Blower Corp., Detroit, Mich.

Autovent Fan & Blower Co., Chicago, Ill.

Berger Bros. Co., Philadelphia, Pa.

Buffalo Forge Co., Buffalo, N. Y.

Burt Mfg. Co., Akron, O.

Campbell Companies, E. K., Kansas City, Mo.

Century Fan & Engineering Co., New York City.

De Bothezat Impeller Co., Inc., New York City.

De Bothezat Impeller Co., Inc., New York City.

Edwards Mfg. Co., Inc., Cincinnati, O.

Fingles, Inc., W. A., Baltimore, Md.

Garden City Fan Co., Chicago, Ill.

General Regulator Corp., Chicago, Ill.

General Regulator Corp., Chicago, Ill.

Grand Rapids Die & Tool Co., Grand Rapids, Mich.

Hartzell Propeller Fan Co., Piqua, O.

Hirschman Co., W. F., Buffalo, N. Y.

Hudson Mfg. Co., H. D., Minneapolis, Minn.

Ilg Electric Ventilating Co., Chicago, Ill.

Iona Ventilator Co., Inc., Philadelphia, Pa.

Jordan & Co., Paul R., Indianapolis, Ind.

Kelsey Heating Co., Syracuse, N. Y.

King Ventilating Co., Owatonna, Minn.

Mack Ventilator Co., Saugus, Mass.

Myers Electric Co., Pittsburgh, Pa.

New York Blower Co., Chicago, Ill.

Niagara Blower Co., New York City.

Pennsylvania Ventilating Co., Philadelphia, Pa.

Robbins & Myers, Inc., Springfield, O.

Robertson Co., H. H., Pittsburgh, Pa.

Royal Ventilator Co., Philadelphia, Pa.

St. Paul Corrugating Co., St. Paul, Minn.

Southbridge Roofing Co., Inc., Southbridge, Mass.

Swartwout Co., Cleveland, O.

Thomas & Armstrong Co., London, O.

United States Ventilator & Power Corp., Boston, Mass.

Washburne & Co., E. G., New York City.

Western Rotary Ventilator Co., Inc., Los Angeles, Cal.

Wing Mfg. Co., L. J., New York City.

VENTILATORS, ROOF, GRAVITY

Accurate Mfg. Works, Chicago, Ill.

VENTILATORS, ROOF, GRAVITY

VENTILATORS, ROOF, GRAVITY

Accurate Mfg. Works, Chicago, Ill.
Aeolus Dickinson, Chicago, Ill.
Airtherm Mfg. Co., St. Louis, Mo.
Akrat Ventilator Co., Chicago, Ill.
Allen Corp., Detroit, Mich.
American Foundry & Furnace Co., Bloomington, Ill.
Allen Corp., Detroit, Mich.
American-Larson Ventilating Co., Pittsburgh, Pa.
Anderson Mfg. Co., Des Moines, Ia.
Arex Co., Chicago, Ill.
Berger Bros. Co., Philadelphia, Pa.
Berger Co., L. D., Philadelphia, Pa.
Berger Co., L. D., Philadelphia, Pa.
Berger Co., L. D., Philadelphia, Pa.
Berger Ros. Co., Akron, O.
Century Fan & Engineering Co., New York City.
Clay Equipment Corp., Cedar Falls, Ia.
Danzer Metal Works, Inc., Hagerstown, Md.
Decatur Iron & Steel Co., Decatur, Ala.
Drummond Sheet Metal Works, Wichita, Kan.
Edwards Mfg. Co., Inc., Cincinnati, O.
Fingles, Inc., W. A., Baltimore, Md.
General Sheet Metal Works, Inc., Bridgeport, Conn.
Globe Ventilator Co., Troy, N. Y.
Hudson Mfg. Co., H. D., Minneapolis, Minn.
Iona Ventilator Co., Inc., Philadelphia, Pa.
Jordan & Co., Paul R., Indianapolis, Ind.
Johns-Manville Sales Corp., New York City.
Kelsey Heating Co., Syracuse, N. Y.
Kernchen Co., Chicago, Ill.
King Ventilating Co., Owatonna, Minn.
Kirk & Blum Mfg. Co., Cincinnati, O.
Kleenaire Filter Co., Stevens Point, Wis.
Lee & Son Co., Thomas, Cincinnati, O.
Levow, David, New York City.
Lyman Company, H. B., Southampton, Mass.
Merchant & Evans Co., Philadelphia, Pa.
Meyer & Bro. Co., F., Peoria, Ill.
Milcor Steel Co., Milwaukee, Wis.
New York Blower Co., Chicago, Ill.
Nilagara Blower Co., Chicago, Ill.
Nilagara Blower Co., New York City.
Norman Sheet Metal Mfg. Co., W. F., Nevada, Mo.
Olson & Sons, Inc., J. L., Logansport, Ind.
Pennsylvania Furnace & Iron Co., Warren, Pa.
Pennsylvania Ventilating Co., Philadelphia, Pa.
St. Paul Corrugating Co., St. Paul, Minn.
Schoedinger, F. O., Columbus, O.
Southbridge Roofing Co., London, O.
Tierney Rotor Ventilator Co., Minneapolis, Minn. Accurate Mfg. Works, Chicago, Ill.

Tiffin Art Metal Co., Tiffin, O.
United States Ventilator & Power Corp., Boston, Mass.
Uno Ventilator Co., Cliftondale, Mass.
Van Noorden Co., E., Boston, Mass.
Watson Co., Inc., Jas. H., Bradley, Ill.
Western Rotary Ventilator Co., Inc., Los Angeles, Cal.
Willis Mfg. Co., Galesburg, Ill.
Vark Corpugating Co., Vark, Pa. York Corrugating Co., York, Pa

> WALL FLASHINGS See Flashings, Wall WALL INSULATION See Insulation, Wall

WARM AIR REGISTER SHIELDS See Shields, Warm Air Register

WASHER AND BLOWER COMBINATIONS See Blower and Air Washer Combinations

WASHERS, AIR, FURNACE

WASHERS, AIR, FURNACE

Air Conditioning Equipment Corp., Minneapolis, Minn. American Foundry & Furnace Co., Bloomington, Ill. Ames Co., W. R., San Francisco, Cal. Brundage Co., Kalamazoo, Mich. Campbell Companies, E. K., Kansas City, Mo. Economy Baler Co., Ann Arbor, Mich. Emerson Electric Mfg. Co., St. Louis, Mo. Gehri & Co., A., Tacoma, Wash. Green Foundry & Furnace Works, Des Moines, Ia. Hess Warming & Ventilating Co., Chicago, Ill. Hill Co., E. Vernon, Chicago, Ill. Hill Co., E. Vernon, Chicago, Ill. Hill Co., E. Vernon, Chicago, Ill. Hill Go., Co., Lot. Holland, Mich. Ideal Furnace Co., Detroit, Mich. Ilg Electric Ventilating Co., Chicago, Ill. Jaden Mfg. Co., Inc., F., Hastings, Nebr. Kaup Airovane Corp., Seattle, Wash. Kelsey Heating Co., Syracuse, N. Y. Lakeside Co., Hermansville, Mich. Lau Heating Service, Inc., Dayton, O. Lennox Furnace Co., Marshalltown, Ia. MaGirl Foundry & Furnace Works, P. H., Bloomington, Ill. Meyer Furnace Co., Peoria, Ill. Montag Stove & Furnace Works, Portland, Ore. Mueller Furnace Co., L. J., Milwaukee, Wis. Peerless Electric Co., U. J., Milwaukee, Wis. Peerless Electric Co., Warren, O. Phillips Heating, Ventilating & Mfg. Co., Los Angeles, Cal. Premier Warm Air Heater Co., Dowagiac, Mich. Redi-Automatic Coal Burners, Inc., Spokane, Wash. Reynolds Corp., Chicago, Ill. Rudy Furnace Co., Dowagiac, Mich. Stilphen Engineering & Mfg. Co., C. A., Denver, Colo. Thatcher Co., Newark, N. J. U. S. Air Conditioning Corp., Minneapolis, Minn. Waterman-Waterbury Co., Minneapolis, Minn. Western Blower Co., Seattle, Wash.

WASHERS, AIR, HEATING AND VENTILATING

WASHERS, AIR, HEATING AND VENTILA'
American Blower Corp., Detroit, Mich.
American Foundry & Furnace Co., Bloomington, Ill.
Ames Co., W. R., San Francisco, Cal.
Autovent Fan & Blower Co., Chicago, Ill.
Bayley Blower Co., Milwaukee, Wis.
Bishop & Babcock Sales Co., Cleveland, O.
Brundage Co., Kalamazoo, Mich.
Buffalo Forge Co., Buffalo, N. Y.
Campbell Companies, E. K., Kansas City, Mo.
Carrier Engineering Corp., Newark, N. J.
Clarage Fan Co., Kalamazoo, Mich.
Economy Baler Co., Ann Arbor, Mich.
Fingles, Inc., W. A., Baltimore, Md.
Hess Warming & Ventilating Co., Chicago, Ill.
Hill Co., E. Vernon, Chicago, Ill. Fingles, Inc., W. A., Baltimore, Md.

Hess Warming & Ventilating Co., Chicago, Ill.

Hill Co., E. Vernon, Chicago, Ill.

Ideal Furnace Co., Detroit, Mich.

Kaup Airovane Corp., Seattle, Wash.

King Ventilating Co., Owatonna, Minn.

Lakeside Co., Hermansville, Mich.

MaGirl Foundry & Furnace Works, P. H., Bloomington, Ill.

McCormick & Co., J. H., Williamsport, Pa.

New York Blower Co., Chicago, Ill.

Parks-Cramer Co., Fitchburg, Mass.

Peerless Electric Co., Warren, O.

Phillips Heating, Ventilating & Mfg. Co., Los Angeles, Cal.

Reynolds Corp., Chicago, Ill.

Somers, Inc., H. J., Detroit, Mich.

Spraco, Inc., Somerville, Mass.

Stilphen Engineering & Mfg. Co., C. A., Denver, Colo.

Sturtevant Co., B. F., Hyde Park, Boston, Mass.

Typhoon Air Conditioning Corp., Minneapolis, Minn.

Western Blower Co., Seattle, Wash.

York Ice Machinery Corp., York, Pa.

WATER HEATERS

See Heaters, Water, Fire Pot Coil & Heaters, Water, Smoke

WEATHER STRIPS, METAL

Accurate Metal Weather Strip Co., New York City.
Allmetal Weatherstrip Co., Chicago, Ill.
American Metal Weather Strip Co., Grand Rapids, Mich.
Barnes Metal Products Co., Chicago, Ill.
Chamberlin Metal Weather Strip Co., Detroit, Mich.
Chamberlin Metal Weather Strip Co., Detroit, Mich. Champion Metal Weather Strip & Parting Bead Co., Boston, Mass.
Diamond Metal Weather Strip Co., Columbus, O.
Ideal Metal Weather Strip Co., Boulder, Colo.
Johnson Metal Products Co., Erie, Pa.
Lupton's Sons Co., David, Philadelphia, Pa.
Metal Products Co., Cincinnati, O.
Monarch Metal Weatherstrip Co., St. Louis, Mo.
Pacific States Felt & Mfg. Co., Inc., San Francisco, Cal.
Philipp Mfg. Co., Easthampton, Mass.
Yardley Screen & Weather Strip Corp., Columbus, O.

WELDERS, ELECTRIC

WELDERS, ELECTRIC

Acme Electric Welder Co., Huntington Park, Cal. American Electric Fusion Corp., Chicago, Ill.

Burke Electric Co., Erie, Pa.

Eisler Electric Corp., Newark, N. J.

Federal Machine & Welder Co., Warren, O.
General Electric Co., Schenectady, N. Y.
Harnischfeger Corp., Milwaukee, Wis.

Hobart Bros. Co., Troy, O.
Hollup Corp., Chicago, Ill.
Ideal Electric & Mfg. Co., Mansfield, O.
Imperial Electric Co., Akron, O.
Lincoln Electric Co., Cleveland, O.
Micro Products Co., Cleveland, O.
Micro Products Co., Chicago, Ill.
National Electric Welding Machines Co., Bay City, Mich.
Taylor-Winfield Corp., Warren, O.
Thomson-Gibb Electric Welding Co., Bay City, Mich.
Una Welding, Inc., Cleveland, O.
Universal Power Corp., Cleveland, O.
Welding Apparatus Co., Chicago, Ill.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Wilson Welder & Metals Co., Inc., North Bergen, N. J.

WELDING ELECTRODES

See Electrodes, Arc Welding

WELDING EQUIPMENT, OXY-ACETYLENE

Air Reduction Sales Co., New York City.
Bastian-Blessing Co., Chicago, Ill.
Burdett Mfg. Co., Chicago, Ill.
Carbo-Oxygen Co., Pittsburgh, Pa.
Harris Calorific Co., Cleveland, O.
Imperial Brass Mfg. Co., Chicago, Ill.
Linde Air Products Co., New York City.
Miller Equipment Co., Cincinnati, O.
Torchweld Equipment Co., Chicago, Ill.

WELDING ROD

See Rod, Welding

WELDING TORCHES

. See Torches, Brazing, Cutting, Welding

WHEELS & FANS

WHEELS & FANS

American Blower Corp., Detroit, Mich.
Bishop & Babcock Sales Co., Cleveland, O.
Buffalo Forge Co., Buffalo, N. Y.
Champion Blower & Forge Co., Lancaster, Pa.
Clarage Fan Co., Kalamazoo, Mich.
Grand Rapids Die & Tool Co., Grand Rapids, Mich.
Lau Heating Service, Inc., Dayton, O.
New York Blower Co., Chicago, Ill.
Niagara Blower Co., New York City.
Torrington Mfg. Co., Torrington, Conn.

WINDOWS, HOLLOW METAL

WINDOWS, HOLLOW MEI'S
Biersach & Niedermeyer Co., Milwaukee, Wis.
Clay Equipment Corp., Cedar Falls, Ia.
Herrmann & Grace Co., Brooklyn, N. Y.
Newman Brothers, Inc., Cincinnati, O.
Perkinson & Brown, Chicago, Ill.
Truscon Steel Co., Youngstown, O.
Willis Mfg. Co., Galesburg, Ill.

Willis Mfg. Co., Galesburg, III.

WIRE, PLAIN, GALVANIZED AND COPPERED

American Steel & Wire Co., Chicago, III.
Bethlehem Steel Co., Bethlehem, Pa.
Central Steel & Wire Co., Chicago, III.
Chicago Steel & Wire Co., Chicago, III.
Columbia Steel Co., San Francisco, Cal.
Continental Steel Corp., Kokomo, Ind.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Laclede Steel Co., St. Louis, Mo.
Milcor Steel Co., Milwaukee, Wis.
Republic Steel Corp., Youngstown, O.
Robertson Steel & Iron Co., W. F., Cincinnati, O.
Townsend Co., New Brighton, Pa.
Wheeling Corrugating Co., Wheeling, W. Va.
Wheeling Metal & Mfg. Co., Wheeling, W. Va.
Wheeling Steel Corp., Wheeling, W. Va.
Youngstown Sheet & Tube Co., Youngstown, O.

American Artisan

1934 DIRECTORY NUMBER

Section 2-TRADE NAMES

- A.B.C.—Humidifiers. L. Co., Indianapolis, Ind.
- A.B.C.—Oil Burners. Automatic Burner Corp., Chicago, Ill.
- A-C.—Furnace Fans. A-C Mfg. Co., Inc., Pontiac, Ill.

 A.E.F.—Electric Welders. American Electric Fusion Corp., Chicago, Ill.

 Accurate—Chimney Caps & Tops,
- Ventilators. Accurate Mfg. Works,
- Chicago, Ill.

 Accurate—Weather Strips. Accurate
 Metal Weather Strip Co., New
 York City.
- Acme-Cement, Paint. Acme Refining
- Co., Cleveland, O. ms—Dampers. Jas. H. Watson Adams—Dampers.
- Co., Inc., Bradley, Ill.

 Adjustable—Blow Pipe Hoods. Kirk
 & Blum Mfg. Co., Cincinnati, O.

 Aeracool Fans, Roof Ventilators.
- Myers Electric Co., Pittsburgh,
- Aerocrat—Air Conditioning Furnaces, Blowers, Fans, Filters, Washers. W. R. Ames Co., San Francisco, Cal.
- Aeroplane-Ventilators. Paul R. Jor-
- dan & Co., Indianapolis, Ind.
 Aeropull-Ventilators. Paul R. Jordan & Co., Indianapolis, Ind.
- Afco—Air Conditioners, Blowers, Furnaces. American Furnace Co., St. Louis, Mo.
- Afco DeLuxe-Air Conditioning Furnaces. American Furnace Co., St. Louis, Mo.
- Afco Duo-Blo-Air Conditioning Units. American Furnace Co., St. Louis, Mo.
- Air Controls-Furnace Fans. Air Controls, Inc., Cleveland, O.
- Air Package-Blower and Air Filter Combinations. Air Controls, Inc., Cleveland, O.
- Airco-Oxy-Acetylene Welding Equipment. Air Reduction Sales Co., New York City.
- Aire-Flo—Air Conditioning Furnaces, Blower-Washer Combinations, Blowers, Washers. Lennox Furnace Co., Marshalltown, Ia.

 Airguide—Hygrometer and Thermometer Fores, Sternward Len. Chi.
- eter. Fee & Stemwedel, Inc., Chi-
- cago, Ill.

 Airmat Dry—Filters. American Air
 Filter Co., Inc., Louisville, Ky.

 Airmeter—Hygrometers. Newport
- Specialty Co., Pawtucket, R. I.

 Air-O-Vac—Furnace Cleaners. Air-O-Vac Furnace Cleaner Co., Milwaukee, Wis.

- Ajax—Pipe, Roofing. Cincinnati Sheet Metal & Roofing Co., Cincinnati,
- Akrat-Ventilators. Akrat Ventilator Co., Chicago, Ill.
- Akron Air Blast-Furnaces, Heaters.
- May-Fiebeger Co., Newark, O.
 Alabama—Ventilators. Decatur Iron & Steel Co., Decatur, Ala.
- Alasco-Oil Burners. Alasco Burner Co., Inc., Winchendon, Mass.
- Alco—Controls, Valves. Alco Valve Co., Inc., St. Louis, Mo. Alcoa—Roofing Sheets, etc. Aluminum Company of America, Pittsburgh,
- Alfol-Insulation. Alfol Insulation Co., New York City.
- All American-Cabinet Heaters, Hayes Custer Stove Co., Bloomington, Ill.
- Allen-Ventilators. Allen Corp., Detroit, Mich.
- Allmetal-Metal Weather Strips. metal Weatherstrip Co., Chicago, III.
- Alma—Heaters. Excelsior Stove & Mfg. Co., Quincy, Ill.

 Almetal—Fire Doors. Merchant & Evans Co., Philadelphia, Pa.
- Alpine—Extension Ladders. Cupples Co., St. Louis, Mo.
- Always Reliable—Soldering Furnaces, Torches. Otto Bernz Co., Inc., Rochester, N. Y.

 A-Mal-Gam—Soldering Flux. Smith
- Welding Equipment Corp., Minne-apolis, Minn.
- Ambassador—Furnaces. P. H. MaGirl Foundry & Furnace Works, Bloomington, Ill.
- American—Controls, Draft Gages, Thermometers. Consolidated Ashcroft Hancock Co., Inc., Bridge-
- port, Conn. American-Furnace Chain. American Chain Co., Inc., Bridgeport, Conn.
- American-Furnaces, Heaters. American Foundry & Bloomington, Ill. & Furnace Co.,
- American—Nails, Wire. American Steel & Wire Co., Chicago, Ill. American—Smoke Pipe Dampers. Griswold Mfg. Co., Erie, Pa.
- American—Weather Strips. American Metal Weather Strip Co., Grand Rapids, Mich.
- American-Larson-Ventilators. American-Larson Ventilating Co., Pittsburgh, Pa.
- American Unit-Filters. American Air
- Filter Co., Inc., Louisville, Ky.

 Ames—Pipe Fittings and Accessories.
 W. R. Ames Co., San Francisco, Cal.

- Anaconda-Sheet Metal Products. American Brass Co., Waterbury, Conn.
- Anchor-Rivets. Townsend Co., New Brighton, Pa.
- Annis-Air Filters. Coppus Engineering Corp., Worcester, Mass
- Anti-Pluvius—Skylights. G. Drouve Co., Fairfield, Conn.
- A-One—Nails. Milcor Steel Co., Milwaukee, Wis.
- Apollo-Sheets. Apollo Co., La Salle, I11.
- Apthorp-Atomizing Nozzles, Oil Tank Gauge. R. E. Apthorp, Everett, Mass
- Aquazone—Room Cooler. Corozone Co., Cleveland, O.
- Arco-Filters. American Radiator Co., New York City.
- Arcweld—Furnaces, Heaters. Arcweld Mfg. Co., Inc., Seattle, Wash.
- -Ventilating Louvres. Arex Co.,
- Chicago, Ill. Arex-Austor-Ventilators. Arex Co.,
- Chicago, Ill.
- Aristo—Pipe Covering. Ruberoid Co., New York City. Armco—Plates, Roofing, Sheets. Sheets. American Rolling Mill Co., Mid-
- dletown, O. Armorize-Paint. Carter Paint Co.,
- Liberty, Ind. Armstrong-Furnaces. Armstrong Fur-
- nace Co., Columbus, O. Arrow—Ventilators. Uno Ventilator Co., Cliftondale, Mass.
- Art-Shingles. Cincinnati Sheet Metal
- & Roofing Co., Cincinnati, O.
- Art—Wood Faces and Grilles. Woos-ter Art Wood, Inc., Wooster, O. Asbestocel—Pipe Covering. Johns-Manville Sales Corp., New York
- Asphalt-Roofers' Mops. Cupples Co.,
- St. Louis, Mo.
- Astor-Heaters. Union Stove Works, New York City. Ath-A-Nor-Furnaces, Heaters. May-
- Fiebeger Co., Newark, O. Atlantic-Air Conditioning Furnaces.
- Portland Stove Foundry Co., Portland, Me.
- Atomist Humidifiers. American Foundry & Furnace Co., Bloomington, Ill.
- Auer-Grilles, Registers, Ventilators. Auer Register Co., Cleveland, O.
- Automatik—Furnaces. Premier Warm Air Heater Co., Dowagiac, Mich.
- Autovent-Blowers, Fans, Ventilators, Washers. Autovent Fan & Blower Co., Chicago, Ill.

В

BB—Fittings and Accessories. Berger Bros. Co., Philadelphia, Pa.
Badger—Oil Burners. Mallow Oil Heating Co., Madison, Wis.
Bailey—Draft Gages, Furnace Regulators. Bailey Meter Co., Cleveland.

land, O.

Baker-Furnaces and Furnace Vacuum Cleaners. Baker Furnace & Cleaner Mfg. Co., Toledo, O.

Balmi-Aire—Air Conditioning Blower-Filter Combinations, Blowers, Humidifiers, Washers. U. S. Air Conditioning Corp., Minneapolis, Minn.

Barber Gas Barber-Gas Burners. Burner Co., Cleveland, O.

Basbleco — Beer Dispensing Equipment. Bastian-Blessing Co., Chi-Equip-

cago, Ill.

Bead—Furnace Chain. Bead Chain

Mfg. Co., Bridgeport, Conn.

Beloit—Machines, Punches, Tools.

Hendley & Whittemore Co., Be-

loit, Wis.

Benefactor—Furnaces. Hess Warming & Ventilating Co., Chicago, Ill.

Bengal—Furnaces, Heaters. Floyd-

Wells Co., Royersford, Pa.

Berger—Expanded Metal Lath. Truscon Steel Co., Youngstown, O.

Berloy—Metal Ceilings. Truscon Steel Co., Youngstown, O.

Co., Youngstown, O.

Best—Grilles, Registers. Best Register
Co., Milwaukee, Wis.

Beth-Cu-Loy—Sheets. Bethlehem Steel
Co., Bethlehem, Pa.

Beverly—Shears. Beverly Throatless
Shear Co., Chicago, Ill.

Big Sioux—Furnaces, Humidifiers, Oil
Burners. Iowa Foundry Co., Sioux
City, Ia.

City, Ia.

Bilt-Rite—Oil Burners. New England Oil Burner Co., Barre, Vt.

—Cement, Insulation, Roofing,

Bird—Cement, Insulation, Shingles. Bird & Son, Inc., E. Shingles. Bird Walpole, Mass.

Black Servant-Stokers. Black Servant Mfg. Co., St. Louis, Mo.

Bliss—Machinery. E. W. Bliss Co.,
Toledo, O.

Blue Ribbon—Extension Ladders.
Goshen Mfg. Co., Goshen, Ind.

Blue Streak—Blowers, Heaters, Hu-midifiers, Washers. Western Blower Co., Seattle, Wash. Western

ler Plate—Furnaces. Williamson Heater Co., Cincinnati, O. Boiler Plate-Furnaces. Bon-Air-Blower-Filter-Washer

Bon-Air—Blower-Filter-Washer Combinations, Furnaces. Rudy Furnace Co., Dowagiac, Mich.

Boomer—Furnaces, Heaters. Hess-Snyder Co., Massillon, O.

Boston—Oil Burners. Boston Machine Works Co., Lynn, Mass.

Bousman—Oil Filters. Bousman Mfg. Co., Inc., Grand Rapids, Mich.

Brauer's—Dampers. A. G. Brauer Supply Co., St. Louis, Mo.

Brillion—Furnaces. Brillion Furnace Co., Brillion, Wis.

Bri-Tex—Insulation. Creo-Dipt Co., Inc., N. Tonawanda, N. Y.

Brown—Furnace Vacuum Cleaners. Henry Brown, Asheville, N. C.

Brown—Oil Burners. Brown Oil Burning Equipment Co., Cambridge, Mass.

Burning Equipment Co., Cambridge, Mass.
wne—Furnaces. Phillips Heating, Browne-Ventilating & Mfg. Co., Los An-

geles, Cal.

Brunett—Furnaces, Heat Savers.

Brown Sheet Iron & Steel Co., St. Paul, Minn.

Bryan-Oil Burners. Bryan Steam Corp., Peru, Ind.

Bryant-Gas Burners, Furnaces Bryant Heater Co., Cleveland, O.

Buckeye-Blower Filter Combinations. John J. Nesbitt, Inc., Philadel-

Buckeye—Buildings, Garages, Roofing, Ventilators. Thomas & Arm-Ventilators. Thomas strong Co., London, O.

Buffalo—Blowers, Fans, Ventilators. Buffalo Forge Co., Buffalo, N. Y. Bung-Lo—Floor and Warm Air Furnaces. Geo. J. Cocking, Santa Ventilators.

Ana, Cal.

Bunsen-Oil Burners. Bunsen Oil Burner Corp., Hartford, Conn.

Burdett-Gas Burners, Oxy-Acetylene Welding Equipment, Torche Burdett Mfg. Co., Chicago, Ill. Torches.

Burn-All—Rubbish Burners. Polk Mfg. Co., Madison, Wis. Burnham—Humidifiers. Burnham

Boiler Corp., Irvington, N. Y. Burn-

Burnwell—Blowers, Stokers. well Corp., Allentown, Pa. Butler-Furnaces. Ramey Mfg. Co., Columbus, O.

Butler—Flashings, Oil Burners, Sto-kers. Butler Mfg. Co., Kansas kers. Bu City, Mo.

Buzzer-Gas Burners. Charles A. Hones, Inc., Baldwin, N. Y.

Calcor-Dampers, Eaves Trough Fittings, Flashings, Ridge Rolls & Ridging, Skylights. California Cornice Works, Inc., Los Angeles, Cal.

California—Oil Burners. California
Oil Burner Co., Kansas City, Mo.
Calwico—Wire Cloth. California Wire
Cloth Co., Inc., Oakland, Cal.
Camel—Controls. C. L. Bryant Corp.,

Cleveland, O.

Campbell—Air Conditioning Units,

Room Coolers. Campbell Metal Window Corp., New York City.

Campbell-Blower-Filter Combinations, Furnaces. Campbell Heating Co., Des Moines, Ia.

Campbell-Nibbling Machines. Campbell, Bridgeport, drew C. Conn.

Canton-Stokers. Canton Stoker Corp., Canton, O.

Capitol—Insulation, Pipe Covering. Standard Lime & Stone Co., Balti-

more, Md. Carbonoid—Soot Destroyers. Weldum Products Co., Inc., Indianapolis,

Carrier—Air Washers, Refrigerating Units. Carrier Engineering Corp., Newark, N. J. Carton—Air Conditioning and Warm

Carton—Air Conditioning and Warm
Air Furnaces, International Heater
Co., Utica, N. Y.
Cary—Controls, Furnaces, Heat
Savers, Oil Burners, Valves. Cary
Mfg. Co., Waupaca, Wis.
Cary Radiator—Air Conditioning Furnaces. Cary Mfg. Co., Waupaca,
Wis.

Wis.

Wis.

Case-Schaffer—Furnaces. Western
Furnaces, Inc., Tacoma, Wash.

Cementkote—Paint. Tropical Paint &
Oil Co., Cleveland, O.

Century—Fans, Motors. Century Electric Co., St. Louis, Mo.

Century—Ventilators. Century Fan &
Engineering Co., New York City.

Certain-teed—Insulation. Certain-teed Products Corp., New York City.

Chalmers-Oil Burners. Chalmers Oil Burner Co., Minneapolis, Minn.

Chamberlin-Weather Strips. Chamberlin Metal Weather Strip Co., Detroit, Mich.

Champion-Blast Gates, Blowers, Louvres, Wheels and Fans. Champion Blower & Forge Co., Lancaster, Pa.

Champion—Furnace Pipe and Fittings. Chas. Johnson Co., Inc., Peoria, I11.

Champion--Spark Plugs. Champion

Spark Plug Co., Toledo, O. Champion—Stokers. Favorite Stove & Range Co., Piqua, O.

Champion—Weather Strips. Champion Metal Weather Strip & Parting

Bead Co., Boston, Mass.

Chapman—Roofing. Chapman
Co., Bethlehem, Pa.

Charavay—Blowers, Controls, Fans, Ventilators. Hartzell Propeller Fan Co., Piqua, O.

Cheviron—Furnaces, Heaters. Michigan Tank & Galvanizing Co., De-Michtroit, Mich.

Christie—Furnace Vacuum Cleaners.
Cincinnati Sheet Metal & Roofing
Co., Cincinnati, O.
Cibulas—Puttyless Skylights, Ventila-

General Sheet Metal Works, Inc., Bridgeport, Conn.

Cinch—Expansion Bolts. National Lead Co., New York City. Cincinnati—Metal Workers' Machinery. Cincinnati Shaper Co., Cincinnati, O.

Clamp On—Humidifier Fittings. Sallada Mfg. Co., Minneapolis, Minn. Clark—Drills. Jas. Clark Jr. Electric Co., Louisville, Ky. Clarm—Humidifiers. Clarm Mechanical Devices Co., Lima, O. Clarm Cleanpressor—Beer Pumps.

Clarm Mechanical Devices Co., Lima, O. Clauss-Snips and Shears.

Clauss—Snips and Shears. Clauss Shear Co., Fremont, O. Clay—Fans, Louvres, Skylights, Ven-tilators. Clay Equipment Corp., Cedar Falls, Ia. Cleveland—Stokers. Reliance Electric & Engineering Co., Cleveland, O. Climate-Changer—Air Conditioning

Trane Co., La Crosse, Furnaces. Wis.

Climate Maker—Air Conditioning Units. York Oil Burner Co., Inc., York, Pa.

Climate Maker—Furnaces. American
Foundry & Furnace Co., Bloomington, Ill.
Climator—Air Conditioning Units,
Blowers, Filters, Washers. L. J.
Mueller Furnace Co., Milwaukee,

Clinton—Cement, Paint. Clinton Metallic Paint Co., Clinton, N. Y.
Colonial—Blower-Filter-Washer Combinations, Fans, Furnaces, Heat-

binations, Fans, Furnaces, Heaters. Green Foundry & Furnace Works, Des Moines, Ia.

Colortipt—Arc Welding Electrodes. Wilson Welder & Metals Co., Inc., North Bergen, N. J.

Columbia—Damper Clips & Tips. S. M. Howes Co., Charlestown, Mass

Mass.

Columbia—Gas Burners. Columbia Burner Co., Toledo, O. Columbia—Ladders. Universal Fit-

tings & Scaffolding Co., Blairsville, Pa.

Columbia-Nutipe-Gas Burners. Columbia Burner Co., Toledo, O.

Columbian-Furnaces, Heaters. Keeley

Stove Co., Columbia, Pa.

Columbus—Air Conditioning Units,
Humidifiers. Columbus Humidifier Co., Columbus, O.

mbus—Furnaces. Surface Com-

Columbus—Furnaces. Surface bustion Corp., Toledo, O.

Columbus—Stokers. National Steam Pump Co., Upper Sandusky, O. Columbus—Ventilators. F. O. Schoe-dinger, Columbus, O. Combination—Furnaces, Heaters.

American Furnace & Foundry Co.,

Milan, Mich.
Combustion—Oil Burners. Combustion Oil Burner Co., Div. of Heil Co., Milwaukee, Wis.

Combustion-Aire-Blowers, Doyle Machine & Tool Corp., Syracuse, N. Y.

Combustioneer-Stokers. Combustioneer, Inc., Springfield, O.
Comet—Ventilators. New York

Blower Co., Chicago, Ill.
Comfort—Furnaces. J. B. Foote Foundry Co., Fredericktown, O. Comfort—Furnaces. Standard Furnace

& Supply Co., Omaha, Nebr.

Comfortrol—Air Conditioning Furnaces and Units, Blower-Filter-Washer Combinations, Washers.

Waterman-Waterbury Co., Minne-

apolis, Minn.

Comfortrol—Controls. Julien P. Friez & Sons, Inc., Baltimore, Md.
Continental—Motors. Continental Electric Co., Inc., Newark, N. J.
Continental—Shingles. Ruberoid Co.,

New York City.

Controllogas—Valves. Payne Furnace
& Supply Co., Beverly Hills, Cal.

Cooper's—Soot Destroyers, Cooper Sanitary Mfg. Co., Philadelphia,

Pa Copperior-Sheets. Superior Sheet

Steel Co., Canton, O.
Corinco—Insulation. Cork Insulation
Co., New York City.

Crawford—Furnaces, Stove & Furnace Repairs. Walker & Pratt Mfg. Co., Boston, Mass.

Creo-Dipt—Paint, Roofing, Shingles.
Creo-Dipt Co., Inc., North Tonawanda, N. Y.
Crescent—Snips and Shears. Crescent
Tool Co., Jamestown, N. Y.
Crescent—Rubbish Burners. Henry N.
Clark Co. Reston, Mass.

Clark Co., Boston, Mass.
Crimpedge—Eaves Trough, Gutters.
Milcor Steel Co., Milwaukee, Wis.
Crucible-Weld—Arc Welding Electrodes. Westinghouse Electric &

Mfg. Co., East Pittsburgh, Pa.

D

Purnace Vacuum Cleaners. Densmore-Quinlan Co., Kenosha,

Dailaire—Air Conditioning Units,
Blowers, Furnaces, etc. Dail Steel
Products Co., Lansing, Mich.

Danzer—Fittings & Accessories, Roofing, Tools, Ventilators, etc. Danzer Metal Works, Inc., Hagerstey, Md.

town, Md.

Daniels—Furnaces, Heaters. Sam Daniels Mfg. Co., Inc., Hardwick, Vt.

Dash—Heaters. Union Stove Works, New York City.

DeLaVergne—Air Conditioning Units, Mechanical Room Coolers. Bald-win-Southwark Corp., Philadelphia, Pa.

Delco Heat—Oil Burners. Delco Appliance Corp., Rochester, N. Y.

Delphos—Sheet Metal Products. New

Delphos Mfg. Co., Delphos, O.

DelLuxe—Air Conditioning Furnaces.

Williamson Heater Co., Cincinnati, O.

DeLuxe-Furnace Vacuum Cleaners. Densmore-Quinlan Co., Kenosha,

Denafelt-Insulation. Ehret Magnesia

Denafelt—Insulation. Ehret Magnesia
Mfg. Co., Valley Forge, Pa.

Detroit—Controls, Valves. Detroit
Lubricator Co., Detroit, Mich.

Detroit—Soldering Torches. Detroit
Torch & Mfg. Co., Detroit, Mich.

Diamond—Bolts, Screws, Tools. Dia-

mond Expansion Bolt Co., Gar-

wood, N. J.

Diamond—Grilles, Perforated Metal.

Diamond Mfg. Co., Wyoming, Pa.

Diamond Flexible—Weather Strips. Diamond Metal Weather Strip

Co., Columbus, O. Diamond H—Switches. Hart Mfg. Co., Hartford, Conn. Di-En-Key—Expansion Bolts. Dia-

mond Expansion Bolt Co., Gar-wood, N. J.

Bethlehem Foun--Oil Burners. dry & Machine Co., Bethlehem, Pa.

Dover-Imperial-Eaves Trough Hang-Ohio Wire Products Co.,

Dover, O.

Dowagiac—Furnaces. Rudy Furnace
Co., Dowagiac, Mich.

Draft Booster—Blowers. Walter J.
Ottinger, Cleveland, O.

Dreadnaught—Furnaces, Torches. P.
Wall Mfg. Supply Co., Pittsburgh, Pa.

Dri-Cool—Room Coolers. U. S. Air Conditioning Corp., Minneapolis,

Dridrum—Filters. American Air Filter Co., Inc., Louisville, Ky.

Drifilter—Filters. American Air Filter Co., Inc., Louisville, Ky.

Drou-Ve-Lite—Skylights. G. Drouve

Co. Fairfield Conn.

Co., Fairfield, Conn.

Dual-Air—Ventilators. General Regulator Corp., Chicago, Ill.

Dualator—Air Conditioning Units.

Dualator—Air Conditioning Units.
Bryant Heater Co., Cleveland, O.
Dunco—Controls, Switches. Struthers Dunn, Inc., Philadelphia, Pa.
Duo-Gyrovane—Ventilators. General Regulator Corp., Chicago, Ill.
Duotherm—Controls. Grinnell Co., Inc., Providence, R. I.
Duo-Weld—Furnaces. Premier Warm Air Heater Co., Dowagiac, Mich.
Duplex—Furnace Vacuum Cleaners.
Ramey Mfg. Co., Columbus, O.
Duro—Motors. Duro Co., Dayton, O.
Dustop—Filters. Owens-Illinois Glass Co., Toledo, O.
Dutch Boy—Paint, Solder. National Lead Co., New York City.
Dux-Bac—Shingles. Milcor Steel Co.,

Dux-Bac—Shingles. Milcor Steel Co., Milwaukee, Wis.

E-Z-Ladder Brackets and Jacks, Soot Destroyers. Healy-Ruff Co., St.

Paul, Minn. E-Z Fit—Eaves Trough, Roof Edging.

Berger Bros. Co., Philadelphia, Pa.

E-Z-Hung—Eaves Trough & Gutters.

Jas. H. Watson Co., Inc., Brad-

ley, Ill.

Eagle—Block Tin Pipe, Insulation,
Paint. Eagle-Picher Lead Co., Cincinnati, O.

Earle—Ventilators. Berger Bros. Co., Philadelphia, Pa.Easternoil—Oil Burners. Easternoil,

Inc., Portland, Me.

Inc., Portland, Met.

Easy-Slip—Conductor Pipe, Eaves
& Gutters, La Crosse Easy-Slip—Conductor Pipe, Eaves
Trough & Gutters. La Crosse
Steel Roofing & Corrugating Co.,
La Crosse, Wis.

Eclipse—Stove Pipe Fittings. Eclipse
Metal Mfg. Co., Eden, N. Y.
Ecod—Metal Lath. Reynolds Metals
Co., New York City.

Econocol-Stokers. Cotta Transmis-

sion Corp., Rockford, Ill.

Economy—Air Conditioning and Warm Air Furnaces, Heaters. In-ternational Heater Co., Utica,

Economy—Blow Pipe Hoods. Kirk & Blum Mfg. Co., Cincinnati, O. Economy—Stokers. Economy Stoker Co., Salt Lake City, Utah.

Eddy—Stokers. Eddy Stoker Corp., Chicago, Ill.

Edmanco—Ceilings, Shingles. Edwards Mfg. Co., Inc., Cincinnati, O.

Edwards—Ceilings, Roofing, Shingles, Tile. Edwards Mfg. Co., Inc., Cincinnati, O.

Edwards Imperial—Ridge Rolls & Valleys. Edwards Mfg. Co., Inc., Cincinnati, O.

Effico—Ventilators. W. F. Hirschman Co., Buffalo, N. Y. Ehret—Cement. Ehret Magnesia Mfg. Co., Valley Forge, Pa.

Eisler—Electric Welders, Oil Burners.

Eisler Electric Corp., Newark, N. J.

Ekcco-Fans, Furnaces, Washers. E. K. Campbell Companies, Kansas City, Mo.

Elastikote-Paint. Tropical Paint &

Oil Co., Cleveland, O.

El Capitan—Furnaces, Heaters. Midland Furnace Co., Columbus, O.

Electrogas—Controls, Furnaces. Elec-

trogas Furnace & Mfg. Co., San

Francisco, Cal.

Electrol—Oil Burners. Electrol Inc.,
New York City.

Eller—Sheet Metal Products. Milcor
Steel Co., Milwaukee, Wis.

Elliptical—Furnace Brushes. Pilley

Packing & Flue Brush Mfg. Co., St. Louis, Mo.

Emco—Regulators. Wisconsin Humidifier Co., Milwaukee, Wis.
Emco—Valves. Pittsburgh Equitable
Meter Co., Pittsburgh, Pa.
Emerson—Blowers, Fans, Humidifiers,

Motors, Washers. Emerson Electric Mfg. Co., St. Louis, Mo.

Empire—Solder. Empire Metal Co.,
Syracuse, N. Y.

C. L. Bryant Empress—Controls. Corp., Cleveland, O. Empress—Damper Motors.

Empress—Damper Motors. Bowen
Products Corp., Auburn, N. Y.
Emrich—Roofers' Tools. Phil Emrich, Cincinnati, O.
Encanto—Gas Furnaces. Midland Fur-

nace Co., Columbus, O.

Enduro-Sheets. Republic Steel Corp.,

Youngstown, O.

Equator—Furnaces, Heaters. Lennox
Furnace Co., Marshalltown, Ia.

Erocel—Pipe Covering. Ehret Mag-

nesia Mfg. Co., Valley Forge, Pa. Esico—Electric Soldering Iron. Elec-tric Soldering Iron Co., New York

Esso Bond-Cement. Ramtite Co., Chicago, Ill.

Eternit—Cement, Insulation, Roofing, Shingles. Ruberoid Co., New York City.

Eureka-Furnaces. Home Stove Co., Indianapolis, Ind.

Evansway-Furnaces. George Evans Corp., Moline, Ill.

Everedy—Oil Burners. Oil Builders, Rock Island, Ill. Oil Burner

Everhot—Metal Melting Ladles, Soldering Coppers, Torches. Everhot Mfg. Co., Maywood, Ill.

Evur-Ready—Oil Burners. Petroleum Engineering Corp., Springfield,

Expansion-Furnace Brushes. Pilley Packing & Flue Brush Mfg. Co., St. Louis, Mo.

Fabrikated-Grilles, Registers. Independent Register & Mfg. Co.,

Cleveland, O. Fairfield—Oil Burners. Fairfield Oil Heating Co., Inc., Greenwich,

Fairweather-Air Conditioning Units, Blower - Washer Combinations, Washers. Lakeside Co., Hermansville, Mich.

Falco-Furnaces. Falco Furnace Co., San Francisco, Cal.

Falco-Sheets. Fairmont Aluminum Co., Fairmont, W. Va.
Falstrom—Blow Pipe Equipment. Fal-

strom Co., Passaic, N. J.
Famous—Step Ladders. Goshen Churn

& Ladder Co., Goshen, Ind. Fano-Flame—Oil Burners. Fano-Flame Oil Burner Co., Hunting-

ton Park, Cal. Farris-Furnaces. Farris Furnace Co.,

Springfield, Ill.

Faultless—Furnaces. Faultless Heater Corp., Cleveland, O.
Faultless—Furnaces. Standard Fur-

nace & Supply Co., Omaha, Nebr.

Favorite—Heaters. Favorite Stove & Range Co., Piqua, O.

Favorite—Smoke Pipe, Fittings and Accessories. Williamson Heater

Co., Cincinnati, O.

co—Pulleys. Tuttle & Bailey,

Fedco-Pulleys. Tuttle & Bailey, Inc., New Britain, Conn. Federal—Electric Welders. Federal Machine & Welder Co., Warren,

Ferguson-Regulators. Ferguson Regulator Co., Youngstown, O.
Ferracute—Presses & Dies, Punches.

Ferracute Machine Co., Bridgeton, N. J.

Ferrocraft—Grilles. Tuttle & Bailey,

Inc., New Britain. Conn.

Fibrofelt—Insulation. Union Fibre Co.,
Inc., Winona, Minn.

Figge—Flashings. Figge Co., Chicago,

III.

Filtaire-Filters. Filtaire Corp., Milwaukee, Wis.

Filtered-Aire-Blower - Filter - Washer Combinations, Filters. American Foundry & Furnace Co., Bloom-ington, Ill.

Finnell—Stokers. Finnell Rotary Stokers, Inc., Elkhart, Ind.

Fire-King-Stokers. Sinker-Davis Co., Indianapolis, Ind.

Fire-Tender—Stokers. Holcomb & Hoke Mfg. Co., Indianapolis, Ind. Firma—Ventilators. W. F. Hirschman Co., Buffalo, N. Y. Fitrite—Leader Straps. Rival Strap Corp., New York City.

Fitrite-Skylight Lifts, Snow Guards, Strainers, Ventilators. David Levow, New York City.

Fixit—Cement. National
Tonawanda, N. Y.

Flex Arc—Arc Welding Electrodes,
Westinghouse
Back Ditts-Electric Welders. Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Flexible Flame-Oil Burners. Gilbert & Barker Mfg. Co., West Springfield, Mass.

Florence-Furnaces, Heaters. C. Em-

rich Co., Columbus, O.
Florence—Heaters, Oil Burners. Florence Stove Co., Gardner, Mass.

Fluid Heat-Oil Burners. Anchor Post Fence Co., Baltimore, Md.

Follansbee Forge-Flashings, Sheets, Terne Roofing. Follansbee Brothers Co., Pittsburgh, Pa.

Folsom-Snow Guards. Folsom Snow Guard Co., Boston, Mass.

Forbes Syphonaire—Ventilators. West-ern Rotary Ventilator Co., Inc., Los Angeles, Cal.

Forbes Tri-Peller-Fans. Western Rotary Ventilator Co., Inc., Los An-

geles, Cal. Forct-Air—Fans. Forct-Air Co., Rockford, Ill.

Fosco-Cornices, Metal Ceilings. Skylights, etc. I Columbus, O. F. O. Schoedinger,

nklin—Stokers. Columbus Metal Products, Inc., Columbus, O. Franklin-Stokers. French—Oil Burners. French Rotary Oil Burner Co., Sebastopol, Cal.

Friez—Controls, Gages, Indicating In-struments. Julien P. Friez & Sons, Inc., Baltimore, Md.

Fuel Savers-Heat Savers. Fuel Savers,

Inc., Harrisburg, Pa.

Furblo—Blower-Filter Combinations,
Blowers. Lakeside Co., Hermansville, Mich.

Furnastender—Domestic Stokers.
Combustioneer, Inc., Springfield,

Furnastoker-Domestic Stokers. Combustioneer, Inc., Springfield, O.

G

G.B.C.—Blowers, Fans, Louvres. General Blower Co., Vineland, N. J.

G.E.—Air Conditioning Units, Controls, Motors. General Electric Co., New York City and Schenectady, N. Y.

Gammeter—Register Shields. W. F.

Gammeter Co., Cadiz, O.

Garland—Furnaces. Detroit-Michigan
Stove Co., Detroit, Mich.

Garrick—Regulators. Hays Corp.,

Michigan City, Ind.

Gar-Wood—Air Conditioning Furnaces and Units. Wood Hydraulic Hoist & Body Co., Detroit, Mich.

Gas Era-Furnaces. L. J. Mueller Furnace Co., Milwaukee, Wis. Gastite-Furnaces. Waterman-Water-

bury Co., Minneapolis, Minn. Gem—Furnaces. Robinson Furnace Co., Chicago, Ill.

Gem—Radiator Shields. Beh & Co., Inc., New York City. Gem—Soldering Furnaces. Burgess Soldering Furnace Co., Columbus, O.

Gem City—Air Conditioning Units, Furnaces, Washers. Hoersting & Holtmann Co., Dayton, O.

Gemaco-Humidifiers. Redi Automatic Burners, Inc., Spokane, Wash.

Genasco—Cement, Shingles. Ba Asphalt Co., Philadelphia, Pa.

Gerhardt—Furnaces. W. R. Ames Co., San Francisco, Cal. Gibralter-Extension Ladders. Cup-

ples Co., St. Louis, Mo.

Gilt Edge—Furnaces. Schwab Furnace & Mfg. Co., Cedar Grove,

Glenwood-Furnaces, Heaters. Glenwood Range Co., Taunton, Mass.

Globe—Ventilators. Globe Ventilator Co., Troy, N. Y. Globe Sizzler—Water Heater Coils. Globe Machinery & Supply Co., Des Moines, Ia.

Golden Star—Furnaces, Solder. J. M. & L. A. Osborn Co., Cleveland, O. Goodhart—Oil Burners. Home Necessities Mfg. Co., Chicago, Ill.

Goss-Controls. Humidity Control Co., Tacoma, Wash.

Grand Rapids—Furnace Vacuum Cleaners. Grand Rapids Furnace Cleaner Co., Grand Rapids, Mich.

Green-Furnace Pipe and Fittings. Green Foundry & Furnace Works,

Des Moines, Ia. Grinnell—Oil Burners. Grinnell Washing Machine Corp., Grinnell, Ia. Griptite—Acid Brushes. Cleveland

Acid Swab Co., Lakewood, O.

Griswold - Heaters. Bryant Heater Co., Cleveland, O.

Guth-Grilles, Ventilators. Edwin F. Guth Co., St. Louis, Mo.

Н

& C-Controls, Registers and Grilles, Ventilators. Hart & Cooley Mfg. Co., Chicago, Ill. H & C—Motors. Barber-Colman Co.,

Rockford, Ill.

Handelan-Humidifiers. Handelan Washed Air Co., Minneapolis, Minn.

Handnib—Punches. National Machine Tool Co., Racine, Wis.

Handy—Furnace Pipe and Fittings,
Ventilators. F. Meyer & Bro. Co,

Ventilators. F. Meyer & Bro. Co, Peoria, Ill.

Hannon—Stokers. Murray-Ohio Mfg. Co., Cleveland, O.

Happy Thought—Heaters. Pittston Stove Co., Pittston, Pa.

Hart—Oil Burners. Hart Oil Burner Corp., Peoria, Ill.

Hauck—Heaters and Kettles, Torches. Hauck Mfg. Co. Brooklyn, N. V.

Hauck Mfg. Co., Brooklyn, N. Y. Haynes—Fans, Humidifiers. Kansas City Furnace Co., Kansas City, Mo.

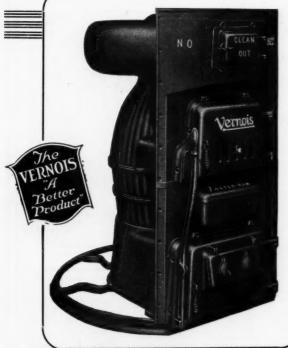
Hays—Draft Gages.
Michigan City, Ind. Hays Corp.,

Health Air—Blowers, Furnaces, Humidifiers, Washers. Economy
Baler Co., Ann Arbor, Mich.
Healthifier—Humidifiers. Williamson
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Health-O-Mist—Humidifiers. Health-

O-Mist Humidifier Mfg. Co., Columbus, Wis. Heart of Heat—Oil Burners.

Foundry Co., Sioux City, Ia. Heat-Hustler—Fans. American Foundry & Furnace Co., Bloomington,

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DIMENSIONS AND SPECIFICATIONS

fiber of	ng nater	le Diameter re Pots	Pots	e neter	tally sured Grate Area	eating Surface ficial Measure	Door	Deor	of ce Collar	ht of ngs	ace Cased Up	dard Code Rating n Air Pipe Area	ing Capacity ubic Peet	th of Lower	th of Upper	th of Upper Lower Casing	ht of dar Canopy	ping Weight	af r Pan
Pur	OC	Insie of F	Per	Grat	Office	Hea	Sine	Sine	Sine	Hai	Heig Purn	Stan	Hen In C	Wid	Wid	T S	Heigh	S o	Sine
920 922 924	In. 40 44 1/4 48 3/4	In. 20 22 24	In. 12 121/2 13	In. 1714 1914 21	S. In. 240½ 291 346½	S. In. 4405 5410 6413	In. 1234×17 1234×17 1234×17	In. 13½x19 13x20 13½x22¾	In. 8 8 8	In. 811/6 831/6 881/6	In. 6716 6916 7116	S. In. 407 495 588	14,000 20,000 30,000	In. 26 26 28	In. 24 26 26	Pt. In. 8 316 9 216 10 116	In. 151/2 151/2	Lbs. 1060 1270 1540	In. 7x1334x434 7x1334x434 7x1334x434
	T	te fall	owing I	We sig	es are bu	ilt with t	he doors his	uged to the fr	088, az	ed with	the b	all bear	ring, roun	d grat	e havi	ng a singl	e dump	center	bar.
1838 2652	38 52	18 26	13 13½	15 23½	177 433	3781 7121	11x13 11x15	17x13 23x14	8 9	47 54	61 7134	318 708	11,000	21 26	24 26	7 9	1314	800 1525	8x15x5 8x15x5
			(1)	uilt wi	th Heavy			VERNOIS							ely Bo	ited Radi	ieter)		
30	90	30	1514	27	373	8941	11x15		10				(67,000		1 26	12 934	119	2100	8x15x5

VERNON FURNACE & MFG. CO. MT. MT. VERNON **ILLINOIS**



NO. 1 HEAVY DUTY PUNCH Length 34", weight 22 lbs., well distributed to nicely balance the tool. Capacity %" hole through %" iron. Heavily reinforced for strains. Punches and dies \%" to \frac{9}{16}" by \frac{1}{4}". Insertable Pipe Handles.



Every part of this Punch is interchangeable with the No. 2. Length 23", weight 16½ lbs. Depth of throat 1%". Capacity ½" through ½" iron. Punches and dies ¾" to ½" by ±".



NO. 6 FLANGE PUNCH Punches within %" of inside corner of Angle Iron. Capacity ¼ through 3 Iron. Depth of throat 1%", throat opening width ½" above die top. Punches and dies ½" to 32" by 32". Especially adapted for Button Punching. Weight—10 lbs.



NO. 91 BENCH PUNCH
Capacity %" Hole Through 44" Iron, 1" Hole
Through 4" Iron, 2" Hole Through 4" Iron.
Weight 82 lbs. Depth of Throat 5". Stock
Size of Punches and dies 4" to 2".



OF

Prompt shipments can be made of any size or any quantity of both types of extra punches and dies as here shown.

EXTRA

and

DIES





HAND PUNCH Length $8\frac{1}{2}$ ". Capacity $\frac{1}{4}$ " through 16 gauge iron. Weight 3 lbs. Depth of throat 2". Punches and dies $\frac{1}{18}$ " to $\frac{3}{2}$ " by $\frac{1}{24}$ ".



Capacity ¼" Hole Through ¼" Iron. Length 18½", weight, 7½ lbs. Depth of Throat 2". Stock Size of Punches ½" to ½" by ½".

Punch Vise as shown above—holding our No. 8 punch. Weight 5 lbs. Made of Malleable Iron. Bolts to bench or plank. Capable of holding any of our punches.



Oakland Radiator Type Furnace

-

Its construction features make for years of efficient, economical service. All parts heavy cast iron. Roller Bearing Duplex Grate and convenient Shaker Handle facilitate operation. Check our grate areas, also capacities of warm-air pipes.

Z-roKing 800A SERIES Pipe Furnace ::

Especially effective in coldest climates. Heaviest firing has no effects on the chemically analyzed gray iron castings of which parts are made. Heavily ribbed two-piece fire pot has covered double cup joint with combustion chamber. Round grate roller bearing mounted. Convenient Shaker Handle.



DIMENSIONS												
Furnace Size	Casing Dia.	Fire Pot Dia.	Casting Height	Smoke Pipe Dia.	Heating Capacity In Cu. Ft.	Cap. Warm Air Pipes Sq. In.	Heating Surface Sq. In.	Grate Area Sq. In.	Pipe Furnace Shipping Wt. Less Casing	Pipe Furnace Shipping Wt. Casing Only	Size Register For Pipeless	Shipping Wt. For Pipeless
818A 820A 822A 824A 926	36 40 44 48 53	24	45½ 49½ 49½ 53 53½	8 8 9 9	8-10000 10-13000 13-18000 18-25000 25-35000	323 398 458 565 637	4109 4655 5141 6236 7236	171 224 265 330 392	600 740 810 1020 1235	80 90 100 105 115	24x27 30x30 34x34 36x36 40x40	870 1040 1190 1367 1657

DIMENSIONS

Oakland Foundry Company, Belleville, Illinois



STEEL, BRASS, BRONZE, COPPER, ZINC, TIN-PLATE, MONEL, LEAD, STAINLESS IRON, ETC.

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Round Holes from .020" to 7" — Oblong and Slot Holes from .008" to 3" wide Ornamental Patterns—Square Holes of Standard Sizes for

Grain Separating and Grading, Ore Sizing and Screening, Coal Screening and Washing, Pulp and Paper Mills, Sugar Refining, Grilles and Ventilators, Machine and Belt Guards, Irrigation Wells, Drying Floors, Or any other purpose

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Heil—Oil Burners. Combustion Oil
Burner Co., Div. of Heil Co., Milwaukee, Wis.
Hercules—Furnaces. Johnston Gas

Furnace Corp., Los Angeles, Cal.

Hercules—Ventilators. Berger Bros.

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Hold-Heet—Air Conditioning Units,

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Holtite—Bolts, Rivets, Screws. Continental Screw Co., New Bedford, Mass.

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Co., Rock Island, Ill.

Home—Weather Strips. Chamberlin
Metal Weather Strip Co., Detroit, Mich.

Home Comfort-Blower-Filter Combinations, Furnaces. St. Louis Heat-

ing Co., St. Louis, Mo.

Horn—Paint, Roofing. A. C. Horn
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Hot-Kold—Air Conditioning Furnaces.

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Household-Furnaces. White-Warner

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Hoyt—Conductor Fittings, Roofing.
National Lead Co., New York

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H. D. Hudson Mfg. Co., Minneapolis, Minn.

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Corp., West Haven, Conn.

Humidity Headquarters—Walter J.
Ottinger, Cleveland, O.

Humitherm—Air Conditioning Units.
Grinnell Co., Inc., Providence,
B. I.

Humitrol—Humidity Controls. Lewis Air Conditioners, Inc., Minneapo-lis, Minn.

Hydro-Coolers - Blowers, Washers. Typhoon Air Conditioning Co., Inc., New York City.

Hy-Power-Furnaces. Rudy Furnace Co., Dowagiac, Mich.

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I.X.L.-Humidifiers. L. C. Thiele Co., Indianapolis, Ind.

Icecool-Room Coolers. Betz Unit Air Cooler Co., Kansas City, Mo.

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Ice-O-Matic-Coolers. Williams Oil-O-Matic Heating Corp., Bloomington, Ill.

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IMP—Stokers. V. M. Cruickshank
Utilities, Shamokin, Pa.

Imperial-Hangers. Berger Bros. Co., Philadelphia, Pa.

Imperial — Pipe Covering. Ruberoid Co., New York City.

Independence — Furnaces. Independence Stove & Furnace Co., Inde-

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Independent—Grilles, Registers, Ventilators. Independent Register & Mfg. Co. Cleveland, O.

Indian—Furnaces. Rudy Furnace Co.

Dowagiac, Mich.

Ingle-Furnaces, Oil Burners. Ingle

Mfg. Co., San Diego, Cal.

IngOclad—Sheets. Ingersoll Steel &
Disc Co., Chicago, Ill.

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Interlock — Conductor Pipe. Milcor Steel Co., Milwaukee, Wis. Inter-

Steel Co., Milwaukee, Wis. International—Blowers, Fans. International Engineering, Inc., Dayton, O.

International-Furnace Pipe Fittings

International—Furnace Pipe Fittings and Smoke Pipe. International Heater Co., Utica, N. Y.

Invisible Joint—Metal Ceilings. Milcor Steel Co., Milwaukee, Wis.

Iona—Louvres, Ventilators. Iona Ventilator Co., Inc., Philadelphia, Pa.

Ironton—Gas Burners, Heaters. Continue Co., Inc., Ironton.

tinental Stove Corp., Ironton, O. Isl City—Registers. Rock Island Register Co., Rock Island, Ill.

n—Chimney Caps and Tops. James H. Watson Co., Inc., Bradley, Ill.

Jack Tar-Roofers' Mops. Cupples Co., St. Louis, Mo.

Janitrol-Gas Burners. Surface Combustion Corp., Toledo, O.

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Jiffy-Bilt-Portable Garages. Steel Products Co., Mansfield, O. Johnson-Gas Burners, Soldering Furnaces, Torches. Johnson Gas Appliance Co., Cedar Rapids, Ia.

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Johnson Co., Oakland, Cal. Johnston-Furnaces. Johns.on Gas

Furnace Corp., Los Angeles, Cal.

Jointite—Insulation. Mundet Cork
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Jordan—Louvres, Ventilators. Paul R.
Jordan & Co., Indianapolis, Ind.
Juneaire—Air Conditioning Furnaces.
American Foundry & Furnace
Co., Bloomington, Ill.

K

K.S.V.'s-Ventilators. Kernchen Co., Chicago, Ill.

Kant Krush-Roof Strainers. Grand Rapids Wire Products Co., Grand

Rapids, Mich.

h—Air Conditioning Furnaces.

Keith Furnace Co., Des Moines,

Keith Monitor--Furnaces. Keith Fur-

nace Co., Des Moines, Ia.

Kelvinator—Air Conditioning Units,
Controls, Coolers, Oil Burners.
Kelvinator Sales Corp., Detroit,

Keystone—Bolts. Diamond Expansion Bolt Co., Garwood, N. J. Kirk & Blum-

& Blum—Blow Pipe Equipment. Kirk & Blum Mfg. Co., Cincinnati, O.

Kitchenaire—Ventilators. Allen Corp.,
Detroit, Mich.
Klauer—Fittings, Roofing. Klauer

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Kleenaire—Filters, Louvres, Ventila-tors. Kleenaire Filter Co., Stetors. Kleenaire vens Point, Wis.

vens Point, Wis.

Kleen-Heet—Oil Burners. KleenHeet, Inc., Chicago, Ill.

Kohler—Crimping Machines. Kohler
Mfg. Co., Pittsburgh, Pa.

Konical—Ventilators. Milcor Steel
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Kooler-Aire—Blower-Washer Combinations. U. S. Air Conditioning Corp., Minneapolis, Minn.

Kool-N-Vent—Fans. Typhoon Air

Conditioning Co., Inc., New York City.

Koons—Air Conditioning Furnaces

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neering Co., Danville, III.

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Units, Heaters. Rooms ing Co., Danville, Ill. Koppax—Paint. Koppers Products Co., Pittsburgh, Pa. Roofing. Koppers Prod-

Koppers—Roofing. Koppers Products Co., Pittsburgh, Pa.

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Watt Mfg. Co., Sterling, Ill.

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Krusair—Air Conditioning Furnaces.

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Kwikturn-Humidifier Fittings, Valves. Walter J. Ottinger, Cleveland, O.

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Lakeside—Blowers, Fans. Lakeside
Co., Hermansville, Mich.

Lamneck-Faces, Fittings, Pipe, Reg-Lamneck Products, Inc., isters. Columbus, O.

Lastik Wampum-Cement, Paint. Lastik Products Co., Inc., Pitts-burgh, Pa.

Lau-Blowers, Blower-Filter-Washer Combinations. Lau Heating Service, Inc., Dayton, O.

Lawson-Heaters. Continental Stove

Corp., Ironton, O.

Lead-Seal—Roofing Nails. Deniston
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Lehigh—Dampers, Furnaces, Heaters. Pittston Stove Co., Pittston, Pa. Leland—Motors. Leland Electric Co.,

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Lewis—Air Conditioning Units. Lewis Air Conditioners, Inc., Minneapolis, Minn.

Liberty-Paint. Carter Paint Co., Liberty, Ind.
Liberty—Ventilators. Pennsylvania

Ventilating Co., Philadelphia, Pa. Lifetime—Torches. Smith Welding Equipment Corp., Minneapolis,

Campbell

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Lifetime—Smoke Pipe. Campbell
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Lincoln—Furnaces. American Foun-

dry & Furnace Co., Bloomington,

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Linseal—Cement. Buckeye Products
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Little Blacksmith—Punches. J. F.

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Mack - Ventilators. Mack Ventilator

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Majestic—Air Conditioning Furnaces.

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A. Fingles, Inc., Baltimore, Md.

Majestic—Furnaces. Majestic Furnace
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Marcus—Heaters. Marcus Smoke
Stack Water Heater, Union City, N. J.

Marion—Stokers. Marion Machine Foundry & Supply Co., Marion, Ind.

Martin - Controls, Heaters. Heating, Ventilating & Mfg. Co.,

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Marvel — Oil Burners. Marvel Oil
Burner Co., Barre, Vt.

Masonite—Insulation. Masonite Corp.,

Chicago, Ill.

Master—Stokers. Whiting Corp., Harvey, Ill.

Master Flux.—Soldering Flux. J. M. & L. A. Osborn Co., Cleveland, O. Master Kraft.—Oil Burners. Harvey-

Master Kraft—Oil Burners. Harvey-Whipple, Inc., Springfield, Mass. Master Metal—Paint. Reynolds Metals Co., New York City.

May—Air Conditioning Units. May—Oil Burner Corp., Baltimore, Md. Mayday—Blowers, Washers. Kaup Airovane Corp., Seattle, Wash.

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Melloblu—Gas Burners. Beck Engineering Combustion Kompany, St. Louis, Mo.

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Combinations. Liberty Foundry
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Metallation—Insulation. Reynolds Metals Co., New York City.

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land, O.

Meteor—Furnaces, Heaters. Thatcher Co., Newark, N. J. Met-L-All—Weather Strips. Metal

met-L-Ail—Weather Strips. Metal
Products Co., Cincinnati, O.

Mettler—Gas Burners. Morey & Jones,
Ltd., Los Angeles, Cal.

Meyer—Air Conditioning Furnaces,
Blower - Filter - Washer Combinations, Coolers, Filters, Furnaces,
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Cloth Co., Detroit, Mich.

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Products Co., Chicago, Ill.

Midland—Furnaces. Lennox Furnace

Co., Marshalltown, Ia.

Milburn—Torches. Alexander

burn Co., Baltimore, Md.

Milcor—Sheet Metal Products. M
cor Steel Co., Milwaukee, Wis.

Miles—Blower - Filter Combinations. Air Controls, Inc., Cleveland, O.

Miles, Jr.-Blower - Filter Combinations. Miles Furnace Fan Division of Henry Furnace & Foundry Co., Cleveland, O.

Milwaukee — Furnaces. Milwaukee Welded Steel Corp., Milwaukee, Wis.

Milwaukee-Ventilators. Milcor Steel Co., Milwaukee, Wis.

Minneapolis - Honeywell -Controls. Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

Minster—Presses. Minster Machine Co., Minster, O.

Model—Furnace Pipe, Heaters, Rubbish Burners. Home Stove Co., bish Burners. H Indianapolis, Ind.

Model-A - Furnaces.

Heater Co., Cincinnati, O.

Modern—Controls. Dampers, Motors,
Regulators. Modern Heat Regu-

lator Co., Clevelanu, C.

Modern—Stokers. Modern Coal
Burner Co., Chicago, Ill.

Hearth—Furnaces. Thomp-

Modern Hearth—Furnaces. Thompson Mfg. Co., Denver, Colo.

Moeller — Hygrometers, Thermometers Moeller Learning Co.

ters. Moeller Instrument Co., Brooklyn, N. Y.

Mohawk—Snow Guards. Mohawk Asphalt Heater Co., Frankfort, N. Y.

Moistair Blended - Iron — Furnaces.

Round Oak Furnace Co., Dowagiac, Mich.

Moistair Boiler - Plate — Furnaces. Round Oak Furnace Co., Dowa-

giac, Mich. Monarch—Oil Burner Accessories. Monarch Mfg. Works, Inc., Philadelphia, Pa.

Moncrief-Furnaces, Heaters. crief Furnace Co., Atlanta, Ga.

Moncrief—Blower-Filter-Washer Com-

binations, Furnaces, Heaters, Smoke Pipe and Furnace Fittings. Henry Furnace & Foundry Co.,

Cleveland, O.

Money Saver—Torches, Oxy-Acetylene Welding Equipment. Smith
Welding Equipment Corp., Minneapolis, Minn. Smith

Montag—Blower-Filter-Washer Combinations, Blowers, Fans, Furnaces, Heaters, Oil Burners, Washers. Montag Stove & Furnace Works, Portland, Ore.

Morrissey-Oil Burners, Stokers. Morrissey & Co., Chicago, Ill.

Motorstokor — Stokers. Motorstokor
Corp., New York City.

Mueller—Furnaces, Heaters, Humidifiers, Pipe and Fittings. L. J.

Mueller Furnace Co., Milwaukee,

Multi-Panel—Filters. American Air Filter Co., Inc., Louisville, Ky. Myers—Motors. Myers Electric Co., Pittsburgh, Pa.

N

National—Blowers, Fans, Filters, Furnaces, Washers. P. H. MaGirl Foundry & Furnace Bloomington, Ill. Works,

National—Copper, Sheets. National
Brass & Copper Co., Lisbon, O.
National—Damper Clips and Tips. U.
S. Register Co., Battle Creek,

Mich.
National—Electric Welders. National Electric Welding Machines Co., Bay City, Mich.

National—Furnaces, Heaters. Excelsior Stove & Mfg. Co., Quincy, I11.

Natroco—Paint. National Mfg. Corp.,
Tonawanda, N. Y.
Neal—Register Shields. Hall-Neal
Furnace Co., Indianapolis, Ind.
Nesbit—Furnaces. Standard Furnace
& Supply Co., Omaha, Nebr.

Nesbit Standard-Furnaces. Standard Furnace & Supply Co., Omaha,

Nebr. Nesbitt-Air Conditioning Units, Heat-John J. Nesbitt, Inc., Phila-

ers. John J. Nesbitt, Inc., Philadelphia, Pa.

Never-Slip—Conductor Fittings. La Crosse Steel Roofing & Corrugating Co., La Crosse, Wis.

Newark—Furnaces. May-Fiebeger Co., Newark, O.

New Cyclone—Blow Pipe Collectors. Kirk & Blum Mfg. Co., Cincinnati O.

nati, O. New Gibraltar-Furnaces, Heaters. P.

H. MaGirl Foundry & Furnace Works, Bloomington, Ill. Newmanco—Kalamein Doors, Grilles, Structural Shapes. Newman Brothers, Inc., Cincinnati, O. New Meteor—Furnaces. Thatcher Co.,

Newark, N. J.

New President—Furnaces, Heaters.
Mt. Vernon Furnace & Mfg. Co.,
Mt. Vernon, Ill.
Newsteel—Sheets. Newton Steel Co.,
Cleveland, O.

Newton-Hickory Mallets. Warren Handle Works Co., Cortland, O. Niagara—Air Conditioning Units, Blow Pipe Equipment. Niagara Niagara

Blower Co., New York City. gara—Furnaces. Forest

Niagara—Furnaces. Forest City.
Foundries Co., Cleveland, O.
Niagara—Metal Workers' Machinery and Tools. Niagara Machine & Tool Works, Buffalo, N. Y.
Noel—Motors. Ideal Electric & Mfg.

Co., Mansfield, O.
Nokol—Oil Burners. Petroleum Heat
& Power Co., Stamford, Conn.

Northern—Pumps. Norther Co., Minneapolis, Minn. Northern Pump

Co., Minneapolis, Minn.

Northern-Breeze—Room Coolers. Chicago Pump Co., Chicago, Ill.

Northwest—Furnaces. A. Gehri & Co., Tacoma, Wash.

Northwestern—Furnaces. Western Furnaces, Inc., Tacoma, Wash

Nor'wester—Blowers. Grand Rapids Die & Tool Co., Grand Rapids, Mich Mich

No Streak—Registers. Rock Island Register Co., Rock Island, Ill.

Novelty—Furnaces, Heaters. Abram
Cox Mfg. Corp., Lansdale, Pa.

Novoid—Insulation. Cork Import
Corp., New York City.

Novy—Ventilators. Decatur Iron &

Steel Co., Decatur, Ala.

Nu-Air—Fans. Meier Electric & Machine Co., Indianapolis, Ind.

Nu-Air—Ventilators. Milcor Steel Co.,

Milwaukee, Wis. Nu-Alpina—Ventilators. Milcor Steel Co., Milwaukee, Wis. Nu-Way—Oil Burners. Nu-Way Corp., Milcor Steel

Rock Island, Ill.

0

Oakland—Furnaces. Oakland Furnace Co, Belleville, Ill.
Ohio—Eaves Trough Hangers. Ohio Wire Products Co., Dover, O.
Ohmlac—Cement, Paint, Oh m la c

Paint & Refining Co., Chicago, Ill.

Oilfyre-Furnaces. Lennox Furnace Co., Marshalltown, Ia.

Oil Master-Furnaces. Round Oak Furnace Co., Dowagiac, Mich.
Oil-O-Matic—Oil Burners. Williams

Oil-O-Matic H e Bloomington, Ill. Heating Corp.,

Old Colony-Oil Burners. Old Colony Machine Works, Fall River,

Oldforge—Punches, Tools. Quality Tools Corp., New Wilmington, Pa. Only Original—Soot Destroyers. Saginaw Salt Products Co., Saginaw,

Open-Dome—Furnaces, Heaters. American Furnace & Foundry Co., Milan, Mich.

Orient—Furnaces. L. C. Thiele Co., Indianapolis, Ind. Osborn—Sheet Metal Products. J. M. L. C. Thiele Co.,

& L. A. Osborn Co., Cleveland, O. OWall—Registers. Rock Island OutOWall-Registers.

Register Co., Rock Island, Ill. Ovaltube—Gas Burners. Beck Engineering Combustion Kompany, St. Louis, Mo.

P

Pacifelt-Insulation. Pacific States Felt & Mfg. Co., Inc., San Francisco, Cal.

Pacific—Furnaces. W. W. Rose-braugh Co., Salem, Ore. Pacific Breeze—Fans. Pryne & Co., W. W. Rose-

Inc., Los Angeles, Cal.

Packham—Crimping Machines. Packham Crimper Co., Mechanicsburg, O.

Parco—Air Conditioning & Warm Air Furnaces. Parco Furnace Divi-sion of Philadelphia & Reading Coal & Iron Co., Philadelphia, Pa. Parco—Skylight Lifts. Park City Cor-

nice Works, Inc., Bridgeport, Conn.

Parker-Kalon-Nails, Screws. Parker-Kalon Corp., New York City.

Parkspray—Air Conditioning Units.

Parks-Cramer Fitchburg, Co.,

Payne Furnaces. Payne Furnace & Supply Co., Beverly Hills, Cal.

Pecora—Cement. Pecora Paint Co.,
Philadelphia, Pa.

Peerless Blower—Filter Combinations, Controls, Fans, Motors, Ventila-tors. Peerless Electric Co., War-ren, O.

Peerless-Blower-Filter Combinations. Peerless Foundry Co., Inc., Indianapolis, Ind.

Peerless—Eaves Trough Hangers. Ab-bott Mfg. Co., Painesville, O. Peerless—Oil Burners. Peerless Oil Burner Co., Inc., Kansas City,

Mo.

Peerless—Ventilators, Washers. New York Blower Co., Chicago, Ill.

Pels—Machinery, Tools. Henry Pels & Co., Inc., New York City.

Penn—Controls, Switches. Penn Electric Switch Co., Des Moines, Ia.

Penn Power—Ventilators. Pennsylvania Ventilating Co., Philadel-

Ventilating Co., Philadelvania Ve phia, Pa.

Pennsylvania-Air Conditioning, Floor, Soldering and Warm Air Fur-naces, Blower-Filter Combina-tions, Humidifiers. Pennsylvania Furnace & Iron Co., Warren, Pa.

Penn Turbine-Ventilators. Pennsylvania Ventilating Co., Philadelphia, Pa.

Perfect—Air Conditioning Furnaces, Furnaces, Richardson & Boynton Co., New York City.

Per ectaire—Air Conditioning Furnaces and Units, Coolers, Humidifiers. Air Conditioning Engineering Co., Cambridge, Mass.

Perfect Art-Metal Ceilings. Jas. H. Watson Co., Inc., Bradley, Ill. Perfect-Fit—Metal Ceilings. Steel Co., Milwaukee, Wis. Perfect Seam—Conductor Pipe. Milcor

H. Watson Co., Inc., Bradley, Ill. Perfection-Extension Ladders. Berger

Bros. Co., Philadelphia, Pa. Perfection-Oil Burners, Smoke Pipe Perfection Stove Co., Dampers. Cleveland, O.

Perfecto—Blowers. F. A. Smith Mfg. Co., Inc., Rochester, N. Y.

Perkins—Presses and Dies. Perkins Machine Co., Warren, Mass.

Petro—Oil Burners. Petroleum Heat

Petro—Oil Burners. Petroleum Heat & Power Co., Stamford, Conn. Pexto—Metal Workers' Machines and Tools. Peck, Stow & Wilcox Co., Southington, Conn. Phaeton—Heaters. Excelso Products Corp., Buffalo, N. Y. Pilley—Furnace Brushes. Pilley Pack-ing & Flue Brush. Mor. Co. Sch.

ing & Flue Brush Mfg. Co., St. Louis, Mo. Pioneer—Air Conditioning Units, Fur-

naces, Oil Burners, Room Coolers. Scott-Newcomb, Inc., St. Louis, Mo.

Pioneer-Furnaces. St. Louis Heat-

ing Co., St. Louis, Mo.

ston—Furnaces. Pittston Stove
Co., Pittston, Pa.

rtihot—Heaters R. I. Schwah Pittston-Furnaces.

Plentihot—Heaters. R. Schwah Sons Co., Milwaukee, Wis.

Porcelite—Tile. Columbian Enamel-

ing & Stamping Co., Inc., Terre Haute, Ind. Portage-Furnaces. XXth Century

Heating & Ventilating Co., Akron, Power King-Drills. Portable Power

Tool Corp., Warsaw, Ind.
Premier—Arc Welding Electrodes,
Welding Rod. American Steel &

Wire Co., Chicago, Ill. Premier—Blowers, Filters, Furnaces, Heaters, Humidifiers, Washers.

Heaters, Humidifiers, Washers. Premier Warm Air Heater Co., Dowagiac, Mich. Premier-Weather Strips. American

Metal Weather Strip Co., Grand Rapids, Mich.

Premo—Gas Burners. Frantz-Carroll Systems, Cleveland, O. Probert—Kalamein Doors. California Cornice Works, Inc., Los Angeles. Cal.

Properaire—Blower - Filter Combina-tions. Grand Rapids Die & Tool Co., Grand Rapids, Mich.

Psychrostat—Controls. Parks-Cramer

Co., Fitchburg, Mass.

Pul-Air — Ventilators. Pennsylvania
Ventilating Co., Philadelphia, Pa.

Puraire — Air Conditioning Units,
Room Coolers. Frantz-Carroll

Systems, Cleveland, O.

Pure Air—Furnaces. Enterprise Boiler & Tank Works, Chicago, Ill.

Quart's-Controls, Oil Burners. vance Oil Burner Co., Hartford, Conn.

Queen-Furnaces. International Heater Co., Utica, N. Y.

Quick Cleaner-Furnace Brushes. Pilley Packing & Flue Brush Mfg. Co., St. Louis, Mo.

Quickwork—Metal Workers' Ma-chines, Shears. Quickwork Co., St. Marys. O.

Quiet May-Oil Burners. May Oil Burner Corp., Baltimore, Md.

R & M-Gas Burners, Fans, Motors, Ventilators. Robbins & Myers, Inc., Springfield, O.

R.M.C.-Gas and Oil Burners and Accessories. Rotary Mfg. Co., Los Angeles, Cal.

R-S-Blast Gates, Controls, Gas and Oil Burners, Valves. R-S Prod-ucts Corp., Philadelphia, Pa.

Radiant Ray—Gas Burners, C.
Parker Co., Inc., Omaha. Nebr.
Rafter—Brakes. Farrel-Birmingh Farrel - Birmingham

Co., Inc., Ansonia, Com.

Randall—Bearings. Randall Graphite
Products Corp., Chicago, Ill.

Rawl-Anchors—Toggle and Anchor

Rawlplug Co., Inc., New Bolts. York City.

York City.

Rawldrills—Drills. Rawlplug Co., Inc., New York City.

Rawlplugs—Expansion Bolts. Rawlplug Co., Inc., New York City.

Ray—Controls, Oil Burners. Ray Burner Co., San Francisco, Cal.

Red Cloud—Heaters. Union Stove Works, New York City.

Red Devil—Cement. Pecora Paint Co., Philadelphia, Pa.

Red Hed—Beer Faucets. Red Hed Mfg. Co., Boston, Mass.

Redi—Stokers, Washers. Redi Automatic Coal Burners, Inc., Spokane, Wash.

Wash.

Red Spindle—Dampers. Stover Mfg. & Engine Co., Freeport, Ill. Red Top—Metal Lath. U. S. Gypsum

Co., Chicago, Ill.

Reed-E-Z-Kleen — Filters. American
Air Filter Co., Inc., Louisville,

Ky.

Rego—Oxy-Acetylene Welding Equipment Torches. Bastian-Blessing Co., Chicago, Ill. Reliance Electric Reliance-Motors.

& Engineering Co., Cleveland, O.
Reliance—Skylights. Asbestos Insulating Co., Norristown, Pa.
Renu—Filters. American Air Filter
Co., Inc., Louisville, Ky.

Co., Inc., Louisville, Ky.
Renu-Vent-Filters. American Air Fil-

ter Co., Inc., Louisville, Ky.

Republic—Draft Gages, Indicating Instruments. Republic Flow Me-

ters Co., Chicago, Ill.

Revere—Sheet Metal Products. Revere Copper & Brass, Inc., New

York City.
Rexoil—Oil Burners. Reif-Rexoil,

Inc., Buffalo, N. Y.
Reynolds—Air Conditioning Furnaces and Units, Blower-Filter-Washer Combinations, Furnaces, Washers. Reynolds Corp., Chicago, Ill.

Rezistal—Sheets. Crucible Steel Co. of America, New York City.

Reznor—Furnaces, Heaters. Reznor

Mfg. Co., Mercer, Pa.

Ribside—Furnaces. Ribside Furnace
Co., Wausau, Wis.

Riddell—Stokers. Riddell Stoker Co.,

Washington, D. C.
Rival—Hangers. Berger Bros. Co.,
Philadelphia, Pa.

Riverside - Blower - Filter Combina-

Furnaces. tions, Rock Island Stove Co., Rock Island, Ill.

Roan—Fans, Motors. Roan Mfg. Co., Racine, Wis.

Robinson-Air Conditioning Furnaces and Units. Re Robinson Furnace

Co., Chicago, Ill.

Roofkoter—Paint. Tropical Paint & Oil Co., Cleveland, O.

Roper—Air Conditioning, Soldering and Warm Air Furnaces, Beer Pumps, Furnace Repairs, Humidifiers, Rubbish Burners. Geo. D. Roper Corp., Rockford, Ill.

Round Oak Furnaces Heaters Round

Round Oak—Furnaces, Heaters. Round Oak Furnace Co., Dowagiac, Mich.

Oak Furnace Co., Dowagiac, Mich.
Royal—Furnaces. Hart & Crouse Co.,
Inc., Utica, N. Y.
Royalaire — Blower-Filter Combinations, Furnaces. Rock Island Stove
Co., Rock Island, Ill.
Ruberoid—Asbestos Paper, Cement,
Insulation, Nails, Paint, Roofing,
Shingles Buberoid Co. New York

Shingles. Ruberoid Co., New York City.

Rubyfluid—Solder, Soldering Flux. Ruby Chemical Co., Columbus, O. Rudy—Furnaces. Rudy Furnace Co., Dowagiac, Mich.

Rutland—Cement, Paint. Rutland Fire Clay Co., Rutland, Vt.

Rybolt-Furnaces. Rybolt Heater Co., Ashland, O.

Ryco-Furnaces. Rybolt Heater Co., Ashland, O.

S

S-C-Furnaces, Heaters, Valves. Surface Combustion Corp., Toledo, O.
—Oil Burners. S-K Co., Inc., S-K-Oil Burners.

Camden, N. J.

S & O—Ventilators. J. L. Olson & Sons, Inc., Logansport, Ind.

Safekote—Shingles. Ruberoid Co., New

York City. Saftrol—Controls. Penn Electric Switch Co., Des Moines, Ia. Saf-T-Stat—Controls. Stat-Amatic In-

strument & Appliance Co., Hartford, Conn. F. L. Saino Mfg.

Saino—Fire Doors. F. L. Saino Mfg. Co., Inc., Memphis, Tenn. Salmo—Cement, Insulation, Pipe Coverings. Sall Mountain Co., Chicago, Ill.

Samco—Cement. Standard Asbestos Mfg. Co., Chicago, Ill.

Sanitary—Furnaces. L. C. Thiele Co.,

Indianapolis, Ind. Indianapolis, Ind.

Sauer-Eisen—Cement, Paint. Technical Products Co., Pittsburgh, Pa.

Savage—Nibbling Machines. W. J.

Savage Co., Knoxville, Tenn.

Schwab—Air Conditioning & Warm

Air Furnaces. R. J. Schwab Sons

Co., Milwaukee, Wis.

Schmidt—Soldering and Brazing

Torches. Minn-Kota Foundry &

Mfg. Co., Fargo, N. D.

Scientific—Furnaces. Scientific Heater

Co., Cleveland, O.

Co., Cleveland, O.

Seamless—Air Conditioning Furnaces,
Furnaces, Heaters. WatermanWaterbury Co., Minneapolis, Minn.
Sebco—Bolts. Star Expansion Bolt
Co., New York City.

Security-Pipe, Ventilators. bee Brothers Co., Pittsburgh, Pa.
Security—Roofing, Shingles. National
Mfg. Corp., Tonawanda, N. Y.
Seil—Oil Burners. Industrial Combustion Corp., Buffalo, N. Y.
Selflock—Stove Pipe. Milcor Steel
Co., Milwaukee, Wis.

Black Servant Servanette-Stokers. Mfg. Co., St. Louis, Mo.

Shadelite—Marquise. California Cor-nice Works, Inc., Los Angeles, Cal.

Cal.

Shanko—Ceilings. Shanker Steel Ceiling Co., New York City.

Sheer—Controls, Humidifiers, Damper Motors, Regulators. H. M. Sheer Co., Quincy, Ill.

Sheldon—Slate Roofing. F. C. Sheldon Slate Co., Granville, N. Y.

Shur-Grip — Handles. Parker-Kalon Corp., New York City.

Shur-Lock—Pipe. Berger Bros. Co., Philadelphia. Pa

Corp., New York City.

Shur-Lock—Pipe. Berger Bros. Co.,
Philadelphia, Pa.

Sievert—Flanging Machines. Morey
& Jones, Ltd., Los Angeles, Cal.

Silcrome—Sheets. Ludlum Steel Co.,
Watervliet, N. Y.

Silent-Air Conditioning Units, Blow-

ers. Air Conditioning Equipment Corp., Minneapolis, Minn. Silentair—Air Conditioning Units, Blower-Filter-Washer Combinations, Humidifiers. A. Gehri & Co., Tacoma, Wash. Silentblu—Gas Burners. Beck Engi-

neering Combustion Kompany, St. Louis, Mo.

Silent Glow—Oil Burners. Silent Glow Oil Burner Corp., Hartford, Conn. Simplex—Beer Faucets and Pumps.

Brew Tapping Apparatus, Inc.,
New York City.
Simplex—Humidifiers. Sallada Mfg.
Co., Minneapolis, Minn.
Simplex—Regulators. Electronic Co.,

Mankato, Minn. Simplex—Tank Gages. Viking Pump Co. of Delaware, Cedar Falls, Ia. Simplex—Weather Strips. American

Metal Weather Strip Co., Grand Rapids, Mich.

Rapids, Mich.

Sirocco—Air Conditioning Units,
Blowers, Fans, Washers. American Blower Corp., Detroit, Mich.

Skuttle—Humidifiers. J. L. Skuttle
Co., Dowagiac, Mich.

Smalmesh—Metal Lath. Milcor Steel
Co., Milwaukee, Wis.

Smith's—Torches, Oxy-Acetylene
Walding Equipment Smith Weld-

Welding Equipment. Smith Welding Equipment Corp., Minneapolis, Minn.

Snaplok—Pipe. Reeves Mfg. Co., Dover, O.

Solar Heat—Furnaces. Thatcher Co., Newark, N. J. Solid Comfort—Furnaces, Heaters. May-Fiebeger Co., Newark, O.
SoRoCo—Flashings, Pipe, Roofing,
Snow Guards. Southbridge Roofing Co., Inc., Southbridge, Mass.

Sound Stopper—Sound Isolation. Walter J. Ottinger, Cleveland, O. Southwark—Punches, Shears. Baldwin-Southwark Corp., Philadel-

win-Southwark Corp., Philadelphia, Pa.

Spear—Furnaces. James Spear Stove & Heating Co., Philadelphia, Pa.

SpecO—Soldering Flux. Pfanstiehl Chemical Co., Waukegan, Ill.

Spee-Dee-Heet—Fans. Williamson Heater Co., Cincinnati, O.

Sphinx—Blower-Filter Combinations, Controls, Furnaces, Gas Burners, Humidifiers. C. L. Bryant Corp, Cleveland, O. Cleveland, O.

Springin—Toggle Bolts. Star Expansion Bolt Co., New York City.
Stamco—Furnace Pipe, Fittings. Cincinnati Stamping Co., Cincinnati,

O.

Standard—Chimney Caps and Tops, Ventilators. Standard Ventilator Co., Lewisburg, Pa.



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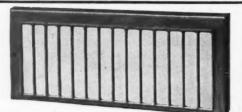
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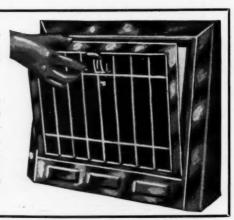


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nace & Supply Co., Omaha, Nebr.
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Punches. Stanley Electric Tool
Co., New Britain, Conn.

Star-Expansion Bolts, Portable Drilis. Star Expansion Bolt Co., New York City.

Arcweld Mfg. Co., Star-Furnaces. Inc., Seattle, Wash.

Star-Ventilators. Merchant & Evans Co., Philadelphia, Pa.

Star—Soldering Furnaces. Burgess Soldering Furnace Co., Columbus,

Stat-Amatic—Controls, Damper Motors. Stat-Amatic Instrument & Appliance Co., Hartford, Conn.

Station Agent-Heaters. Union Stove Works, New York City. Filter

Staynew—Filters. Staynew Corp., Rochester, N. Y.

Stayrib—Metal Lath. Milcor Steel Co., Milwaukee, Wis.

Stearns—Registers. Springman Metal Specialty Co., Detroit, Mich.

Steel Braced—Ladders. Universal Fit-

tings & Scaffolding Co., Blairs-ville, Pa.

Steelweld - Metal Workers' Brakes. Steelweld Machinery Co., Cleve-

Stewart—Downspout Protectors. O. S. Stewart Co., Cleveland, O. Stil-Blade—Fans. C. A. Stilphen Engineering & Mfg. Co., Denver, Colo.

Stilphen—Air Conditioning Units,
Blower-Filter-Washer Combinations, Blowers, Coolers, Fans,
Washers. C. A. Stilphen Engineering & Mfg. Co., Denver, Colo.
Sto-Coke — Stokers. Sto-Coke, Inc.,
Ludianapolis, Ind.

Sto-Coke — Stokers. Sto-Coke, Inc., Indianapolis, Ind.
Stokol—Stokers. United Stoker Corp., LaFayette, Ind.
Stow—Portable Drills. Stow Mfg. Co., Inc., Binghamton, N. Y.
Success—Furnaces. Lennox. Furnace Co., Marshalltown, Ia.
Success—Furnaces. Midland Furnace Co., Columbus, O.
Summerheat—Oil Burners. Summerheat Corp. of America. Dowagiac.

heat Corp. of America, Dowagiac, Mich.

Sunbeam-Furnaces, Heaters. Furnace Co., Elyria, O.
Super-Fan—Fans. Super-I
Co., Freeport, Ill. Super-Fan Mfg.

Superfex-Air Conditioning and Warm Air Furnaces, Heaters. Perfection Stove Co., Cleveland, O. Superheat—Regulators. Midwest Com-

bustion Equipment Co., Chicago, T11.

Superior-Blowers, Washers. American Foundry & Bloomington, Ill. & Furnace Co.,

Superior—Furnaces. Richardson & Boynton Co., New York City. Superior—Galvannealed Sheets. Supe-

rior Sheet Steel Co., Canton, O.

oer Suction—Furnace Vacuum Cleaners. National Super Service Co., Toledo, O. Super-Weld—Metal Melting Ladles.

Milwaukee Welded Steel Corp., Milwaukee, Wis.

Supreme — Controls, Humidifiers, Valves. Supreme Electric Prod-ucts Corp., Rochester, N. Y. Supreme—Furnaces, Heaters. Ameri-can Furnace & Foundry Co., Mi-

lan, Mich.

Surelok-Pipe. Reeves Mfg. Co., Dover, O.

Surety—Furnaces. St. Louis Heating Co., St. Louis, Mo.

T

Taft-Oil Burners. Taft Oil Burner

Co., Boston, Mass.

Tag—Valves. C. J. Tagliabue Mfg.
Co., Brooklyn, N. Y.

Tapit—Beer Faucets. Beverage Industries Corp., Detroit, Mich. Target & Arrow-Sheets. N.

Taylor Co., Cumberland, Md. Taylor-Stokers. American Engineer-

ing Co., Philadelphia, Pa.

Teesdale—Check Valves, Fuel Gages,
Oil Pumps. Teesdale Mfg. Co., Grand Rapids, Mich.

Temlok—Insulation. Armstrong Cork & Insulation Co., Lancaster, Pa.

Tempered Aire—Air Conditioning Furnaces, Furnaces. Wood Hydraulic Hoist & Body Co., Detroit, Mich.

Tenax—Expansion Bolts. Diamond Expansion Bolt Co., Garwood, N. J.

Texrope-Transmission Drives. Allis-Chalmers Mfg. Co., Milwaukee, Wis.

Thatcher—Air Conditioning Furnaces, Blower - Filter - Washer Combina-tions, Washers. Thatcher Co., Newark, N. J.

Thermal Unit—Beer Pumps, Room Coolers. Thermal Units Mfg. Co., Chicago, Ill.

Thermo-Furnaces. American Furnace Co., St. Louis, Mo.

Thermolier-Air Conditioning Units, Coolers. Grinnell Co., Inc., Providence, R. I.

Thurmus—Furnaces. McPherson Fur-

nace & Supply Co., Portland, Ore.

Thiele—Furnaces. L. C. Thiele Co.,
Indianapolis, Ind.

Thriftcast-Furnaces. Round Oak Fur-

nace Co., Dowagiac, Mich. Thriftsteel—Furnaces. Round Furnace Co., Dowagiac, Mich.

Thor-Drills. Independent Pneumatic Tool Co, Chicago, Ill.

Throway-Filters. American Air Filter Co., Inc., Louisville, Ky. Tightcote-Roofing. Edwards Mfg.

Co., Inc., Cincinnati, O.

Wheat — Pipe Covering Paste.
Clark Stek-O Corp., Rochester, Tik

Tilath-Metal Lath. Milcor Steel Co.,

Milwaukee, Wis.

Tillers-all-Welded—Furnaces. I o w a
Foundry Co., Sioux City, Ia.

Timken-Silent Automatic—Oil Burners. Timken-Silent Automatic Co., Detroit, Mich.

Tinol—Flux. American Solder & Flux Co., Philadelphia, Pa. Titelock—Roofing, Shingles, Stove Pipe. Milcor Steel Co., Milwau-

kee, Wis. Tocoseal—Cement. Tropical Paint &

Toledo—Machines, Tools. Toledo Machine & Tool Co., Toledo, O.

Toncan—Roofing, Sheets. Republic Steel Corp., Youngstown, O.

Toridheet — Oil Burners. Cleveland

Steel Products Corp., Cleveland,

0. Tornado-Furnace Vacuum Cleaners. Breuer Electric Mfg. Co., Chicago, T11

Torrid Zone-Furnaces. Lennox Furnace Co., Marshalltown, Ia.

Torvic-Oil Burners. Victor Products Corp., Hagerstown, Md.

Transite—Roofing, Ventilators. Johns-Manville Sales Corp., New York City.

Tropico-Furnaces. Lennox Furnace Co., Marshalltown, Ia. **Tubular**—Furnaces. Thatcher Co.,

Newark, N. J.

Typhoon-Blowers, Grilles. Typhoon Air Conditioning Co., Inc., New York City.

U.S.—Blowers, Firing Tools, Humidi-fiers. U. S. Pressed Steel Prodfiers. U. S. Pressed Steel Prod-ucts Co., Kalamazoo, Mich. U.S.—Dampers, Faces, Fittings,

Grilles, Louvres, Registers. U. S.

Register Co., Battle Creek, Mich. U.S. AircO—Blowers, Washers. U. S. Air Conditioning Corp., Minneapolis, Minn.

U.S. All Steel-Furnaces. U.S. Pressed Steel Products Co., Kalamazoo, Mich.

U.S.G.-Roofing, Shingles. U. S. Gypsum Co., Chicago, Ill.

Una—Arc Welding Electrodes, Elec-tric Welders. Una Welding Inc., Cleveland, O.

Uniblade-Blower-Filter-Washer Combinations. Autovent Fan Blower Co., Chicago, Ill. binations.

Unicool—Air Conditioning Units, Blower-Washer Combinations. Betz Unit Air Cooler Co., Kansas City, Mo.

Uni-Fire-Oil Burners. Uni-Fire Co., Detroit, Mich.

Uni-Flo-Registers. Uni-Flo Grille Corp., Detroit, Mich.

Union—Pipe Covering. Union. Co., Inc., Winona, Minn. Union Fibre

Unique—Blow Torches, Ladles, Oil Burners, Soldering Furnaces. Unique Mfg. Co., Inc., Chicago, III.

Unishear—Power Shears. Stanley Electric Tool Co., New Britain, Conn.

Unitype—Stokers. Modern.
Co., Chicago, Ill.
Universal—Air Filters. Hugo Mfg.
Co., Duluth, Minn.
Universal—Arc Welding Electrodes,
Universal Universal—Arc Welding Welders.

Universal Power Corp., Cleveland, O. Universal-Blowers. Universal Blower

Co., Birmingham, Mich.
Universal—Blowers, Fans. Ilg Electric Ventilating Co., Chicago, Ill.
Universal—Humidifiers. Universal Hu-

midifier Co., Detroit, Mich.
Universal—Hand Snips and Shears.
Rupp Forge & Shear Co., Cleveland, O.

Universal—Heaters. John J. Nesbitt, Inc., Philadelphia, Pa. Universal—Oil Burners. Morey &

Universal—Oil Burners. Morey & Jones, Ltd., Los Angeles, Cal.
Upson—Bolts, Nails, Screws. Republic Steel Corp., Youngstown, O.
Upson—Insulation. Upson Co., Lock-

port, N. Y.

Vac-u-Cleen-Furnace Cleaners. Williamson Heater Co., Cincinnati, O. Vail—Chimney Tops. Vail Mfg. Co., Fort Wayne, Ind.

Valley Forge—Cement. Ehret Magnesia Mfg. Co., Valley Forge, Pa.

- Valvet—Beer Pumps. E. R. Seifert, Inc., Syracuse, N. Y. Vent-O-Lite—Skylights. Vent-O-Lite
- Co., Chicago, Ill. Ventura—Fans, Ventilators.
- American
- Blower Corp., Detroit, Mich. Vernois—Furnaces, Heaters. Mt. Vernon Furnace & Mfg. Co., Mt. Vernor Furnace & Mfg. Co., Mt. Ve non, Ill. Verson—Presses,
- Punches, Shears. Allsteel Press Co., Chicago, Ill.
- Victor—Blowers, Fans, Motors. Victor Electric Products, Inc., Cincin-Vic-
- nati, O. Victor—Furnaces, Heaters. Hall-Neal Furnace Co., Indianapolis, Ind.
- Victor—Regulators. Safe Automatic Heat Control Co., Detroit, Mich. Victor—Stokers. Orr & Sembower, Inc., Reading, Pa. Victoraire—Air Conditioning Furnac-es. Hall-Neal Furnace Co., Indi-
- anapolis, Ind.

 Viking—Oil Pumps. Viking Pump Co.
 of Delaware, Cedar Falls, Ia.

 Vulcan—Stokers. Modern Coal Burner
- Co., Chicago, Ill.

- WAJ—Air Duct Diffusers. WAJ Mfg. Co., Kansas City, Mo. Walker—Stove and Furnace Repairs.
- Walker & Pratt Mfg. Co., Boston, Mass.
- Walworth Registers. Forest City Foundries Co., Cleveland, O. Ward—Furnaces, Heaters. Mt. Ver-
- non Furnace & Mfg. Co., Mt. Ver-
- mon, Ill.

 Ward Furnaces, Heaters. Ward
 Heater Co., Ltd., Los Angeles, Cal.
- Warm Friend Furnaces. Thatcher

- Warm Friend Furnaces. Thatcher Co., Newark, N. J.
 Washburne—Ventilators. E. G. Washburne & Co., New York City.
 Watcocell—Pipe Covering. Ruberoid Co., New York City.
 Waterbury Air Conditioning Furnaces and Units, Blower-Filter-Washer Combinations. Furnaces Washer Combinations, Furnaces, Heaters, Etc. Waterman-Water
- bury Co., Minneapolis, Minn.

 Watsco 50-50—Solder. Jas. H. Watson Co., Inc., Bradley, Ill.

 Watson—Asbestos Paper, Cement,
- Watson—Asbestos Paper, Ce me n t,
 Pipe Covering, Roofing, Shingles.
 Ruberoid Co., New York City.
 Watson—Cornices, Marquise, Roofing,
 Skylights, Ventilators. Jas. H.
 Watson Co., Inc., Bradley, Ill.
 Wayne—Oil Burners. Wayne Oil
 Burner Corp., Fort Wayne, Ind.

- Weaco-Oil Preheaters. Warren Elec-tric Appliance Co., Warren, Pa. Weathermaker-Air Conditioning Units

- and Room Coolers. Carrier Products Corp., Newark, N. J.
- Weathermaker-Central Station -Conditioning Units. Carrier Engineering Corp., Newark, N. J.
- Weathermaker-Home-Gas Fired Air Conditioning Furnace. Carrier-Lyle Corp., Newark, N. J. Weather Robot — Air Conditioning
- Units. Peerless Electric Co., Warren, O.
- Weir—Air Conditioning and Warm Air Furnaces. Meyer Furnace Co., Peoria, Ill.
- Weisco—Skylight Lifts. H. Weiss & Co., New York City.
- Weldomatic—Electric Welders. West-inghouse Electric & Mfg. Co., East Pittsburgh, Pa.
- Wesco-Furnaces. John Westwick & Son, Inc., Galena, Ill.
- Western—Blow Pipe Equipment, Blowers, Fans, Washers. Western Blower Co., Seattle, Wash.
- Western Furnaces. Western Furnaces, Inc., Tacoma, Wash.
- Western—Furnaces, Heaters. Western Steel Products Co., New Duluth, Minn.
- Western Fan—Ventilators. Western Rotary Ventilator Co., Inc., Los Angeles, Cal.
- Western Rotary-Ventilators. Western Rotary Ventilator Co., Inc., Los Angeles, Cal.
- Westinghouse—Air Conditioning Units, Motors. Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. Westrite—Furnaces. Western Fur-
- naces, Inc., Tacoma, Wash.

 Whitney—Domestic Stokers. Apex
 Tool Co., Inc., Bridgeport, Conn.

 Wiechert—Furnaces. St. Clair Foun-
- dry Corp., Centralia, III.

 Wi'dergloss—Smoke and Stove Pipe
 and Fittings. Wilder Metal Co., Niles. O.
- Wilder Metal-Sheets. Wilder Metal
- Co., Niles, O.

 Williamson—Air Conditioning Furnaces, Stove and Furnace Repairs.

 Williamson Heater Co., Cincin-
- williamson Heater Co., Cincinnati, O.

 Wilson—Electric Welders. Air Reduction Sales Co., New York City.

 Wilson—Electric Welders. Wilson Welder & Metals Co., Inc., North Bergen, N. J.
- Wilson Mfg. Co., Wilson-Nozzles.
- Denver, Colo.

 Windshield Scuppers. Windshield
 Scupper Co., New York City.

 Winter Chaser—Furnaces. Campbell
- Heating Co., Des Moines, Ia.
 Winter King—Furnaces. McPherson Furnace & Supply Co., Portland,

- Wisconsin Humidifiers. Wisconsin Humidifier Co., Milwaukee, Wis.
- Wise—Furnaces, Heaters. Wise Furnace Co., Akron, O.
- Wiss—Shears, J. Wiss & Sons Co., Newark, N. J.
- Wolverine—Weather Strips. American Metal Weather Strip Co., Grand Rapids, Mich.
- Woolwine-Metal Ceilings. Woolwine Metal Products Co., Los Angeles, Cal.
- World's Fair—Roofers' Mop Heads.
 Thos. J. Fisele Mop Mfg. Co., St.
 Louis, Mo.
 Wright's Snap On—Eaves Trough
- Ends. Double Duty Co., Aurora, III.

- XL-Metal Windows. Herrmann & Grace Co., Brooklyn, N. Y.
- XXth Century-Furnaces, Gas Burners, Heaters, Repairs. Twentieth Century Heating & Ventilating
- Co., Akron, O.

 X-L-All—Furnaces, Heaters. Deshler
 Foundry & Machine Works, Deshler, O.
- Xit-Ventilators. Iona Ventilator Co., Inc., Philadelphia, Pa.

Y

- Y-B-Blow Pipe Equipment, Diffusers, Louvres. Young & Bertke Co., Cincinnati, O.
- Yankee—Dampers. S. M. Howes Co., Charlestown, Mass. Yankee-Boy—Oil Burners. New England Oil Burner Co., Watertown, Mass.
- Yardley Weather Strips. Yardley Screen & Weather Strip Corp., Columbus, O.
- Yoder Co., Cleveland, O.
- York—Gas Burners. York Oil Burner Co., Inc., York, Pa. York-Lalor—Oil Burners, Regulating Valves, Etc. York Oil Burner Co., Inc., York, Pa.
- Young—Dampers, Quadrants and Accessories. Young Ventilating Co., Cleveland, O.

Z

- Zephyr-Air Conditioning Units. Conditioning Industries, Inc., New York City.
- Zero King—Furnaces. Oakland Foundry Co., Belleville, Ill.

American Artisan

1934 DIRECTORY NUMBER

Section 3 — MANUFACTURERS' ADDRESSES

A-C Mfg. Co., Inc., 417 Sherman St., Pontiac, Ill. A-C Spark Plug Co., Flint, Mich.
Abbott Mfg. Co., 32 E. Main St., Painesville, O.
Accurate Mfg. Works, 2432 Milwaukee Ave., Chicago, Ill.
Accurate Metal Weather Strip Co., 212 E. 26th St., New York

City.

Acer & Whedon, Inc., Commercial St., Medina, N. Y.

Acme Electric Welder Co., 5621 Pacific Blvd., Huntington

Acme Refining Co., W. 56th & W. & L. E. Ry., Cleveland, O. Acme Tin Plate & Roofing Supply Co., 10th & York Sts., Philadelphia, Pa.

Philadelphia, Pa.
Advance Oil Burner Co., 66 Village St., Hartford, Conn.
Aeolus Dickinson, 3320 S. Artesian Ave., Chicago, Ill.
Aerofin Corp., 850 Frelinghuysen Ave., Newark, N. J.
Agricola Furnace Co., Inc., North 12th St., Gadsden, Ala. Air Conditioning Engineering Co., 171 2nd St., Cambridge, Air Conditioning Equipment Corp., 310 W. 33rd St., Minne-

Conditioning Equipment Corp., 257 E. Keefe Ave., Mil-

waukee, Wis

Air Conditioning Industries, Inc., 101 Park Ave., New York

City.

Air Controls, Inc., 1960 W. 114th St., Cleveland, O. Air-O-Vac Furnace Cleaner Mfg. Co., 2101 E. Wood Place, Milwaukee, Wis.

Air Reduction Sales Co., 60 E. 42nd St., New York City. Airtherm Mfg. Co., 1474 S. Vandeventer Ave., St. Louis, Mo. Ajax Building Bracket Co., 1551 Rydal Mount Rd., Cleveland Heights, O.

Heights, O. Akrat Ventilator Co., 1717 Carroll Ave., Chicago, Iil. Aladdin Heating Corp., 5107 Broadway, Oakland, Cal. Alasco Burner Co., Inc., Winchendon, Mass. Alco Valve Co., Inc., 2628 Big Bend Blvd., St. Louis, Mo.

Alco Valve Co., Inc., 2628 Big Bend Blvd., St. Louis, Mo. Alexander Bros., Philadelphia, Pa. Alfol Insulation Co., Chrysler Bldg., New York City. Allegheny Steel Co., Brackenridge, Pa. Allen Corp., 1040 Fourteenth Ave., Detroit, Mich. Allis-Chalmers Mfg. Co., Milwaukee, Wis. Allis Co., Louis, 427 E. Stewart St., Milwaukee, Wis. Allmetal Weatherstrip Co., 229 W. Illinois St., Chicago, Ill. All States Roofers Equipment & Material Co., 2109 W. Lake St., Chicago, Ill. Allsteel Press Co., 12015 S. Peoria St., Chicago, Ill. Allweather Conditioning Co., 467 Calhoun St., Trenton, N. J. Alton Mineral Wool Co., P. O. Box 268, Alton, Ill. Aluminum Company of America, 801 Gulf Bldg., Pittsburgh, Pa.

American Air Filter Co., Inc., 215 Central Ave., Louisville, Kv.

American Blower Corp., 6000 Russell St., Detroit, Mich. American Brass Co., Waterbury, Conn. American Chain Co., Inc., 929 Connecticut Ave., Bridgeport, Conn.

American Electric Fusion Corp., 2610 Diversey Ave., Chicago, Ill. American Engineering Co., Cumberland & Aramingo Sts.,

Philadelphia, Pa.

American Foundry & Furnace Co., 917 E. Washington St., Bloomington, Ill.

American Furnace Co., 2729 Delmar Blvd., St. Louis, Mo. American Furnace & Foundry Co., Milan, Mich. American Gas Products Corp., 40 W. 40th St., New York City. American-Larson Ventilating Co., 1004 Keystone Bank Bldg.,

Pittsburgh, Pa.

American Metal Weather Strip Co., 144 Division Ave., No.,
Grand Rapids, Mich.

American Nickeloid Co., 1501 2nd St., Peru, Ill.

American Nickelold Co., 1901 2nd St., Peru, 111.
American Pulley Co., 4200 Wissahickon St., Philadelphia, Pa.
American Radiator Co., 40 W. 40th St., New York City.
American Rolling Mill Co., Curtis St., Middletown, O.
American Sheet & Tin Plate Co., Frick Bldg., Pittsburgh, Pa.
American Solder & Flux Co., Wayne Ave. & Berkley St.,
Philadelphia, Pa.

American Steel Co., Park Bldg., Pittsburgh, Pa. American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill. American Tin & Terne Plate Co., 24th & Vine St., Philadelphia, Pa.

American Warming & Ventilating Co., 1017 Summit St.,

Toledo, O.
American Wood Register Co., Novelty & Walnut Sts., Ply-

mouth. Ind.

mouth, Ind.

American Zinc Products Co., Greencastle, Ind.

Ames Co., W. R., 150 Hooper St., San Francisco, Cal.

Anchor Post Fence Co., 6500 Eastern Ave., Baltimore, Md.

Anderson Mfg. Co., 511 3rd, Des Moines, Ia.

Andes Range & Furnace Corp., 117 Evans St., Geneva, N. Y.

Angell Nail & Chaplet Co., 4580 E. 71st St., Cleveland, O.

Antigo Bldg. & Supply Co., Antigo, Wis.

Apex Tool Co., Inc., 50 Remer St., Bridgeport, Conn.

Apollo Co., La Salle, Ill.

Apollo Steel Co., 609-617 Warren Ave, Apollo, Pa.

Apthorp, R. E., Box 34, Everett, Mass.

Architectural Metal Products Co., 626 Broadway, Cincinnati, O.

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Arco Vacuum Corp., 40 W. 40th St., New York City.
Arcweld Mfg. Co., Inc., 3469 3rd Ave., West, Seattle, Wash.
Arex Co., 333 N. Michigan Ave., Chicago, Ill.
Armstrong-Blum Mfg. Co., 339 N. Francisco Ave., Chicago, Ill.
Armstrong Cork & Insulation Co., Lancaster, Pa.
Armstrong Furnace Co., Columbus, O.
Artic Chemical & Combustion Engineering Corp., 209 King
St., Brooklyn, N. Y.
Asbestos Insulating Co., Astor & Main Sts., Norristown, Pa.
Atlas Bolt & Screw Co., 1100-1144 Ivanhoe Road, Cleveland, O.
Atlas Heating & Ventilating Co., 557 4th St., San Francisco, Cal.

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Auer Register Co., 3608 Payne Ave., Cleveland, O.
Automatic Burner Corp., 1823 Carroll Ave., Chicago, Ill.
Automatic Humidifier Co., E. 4th, Cedar Falls, Ia.
Automatic Products Co., 121 N. Broadway, Milwaukee, Wis.
Automatic Stoker Corp., Indianapolis, Ind.
Autovent Fan & Blower Co., 1805 N. Kostner Ave., Chicago,

В

Bacharach Industrial Instrument Co., 7000 Bennett St.,

Pittsburgh, Pa.

Badger & Sons, E. B., 75 Pitts St., Boston, Mass.

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland, O.

Baker Furnace & Cleaner Mfg. Co., 2505 Albion St., Toledo, O.

Baker Ice Machine Co., 1590 Evans St., Omaha, Neb.

Baldor Electric Co., 4351-59 Duncan Ave., St. Louis, Mo.

Baldwin-Southwark Corp., Philadelphia, Pa.

Ballard, Inc., Arthur H., 535 Commonwealth Ave., Boston,

Balloffett Diamond Wire Dies Co., Inc., 15 E. 22nd St., New

York City.

Bangor-Washington Slate Co., Bangor, Pa.
Barber Asphalt Co., 1600 Arch St., Philadelphia, Pa.
Barber-Colman Co., Rockford, Ill.
Barber Gas Burner Co., 3704 Superior Ave., Cleveland, O.
Bardes Range & Foundry Co., E. H., 2619 Colerain Ave., Cincipant Co. cinnati, O. Barnes Metal Products Co., 4425 W. Sixteenth St., Chicago,

111. Barret Regulation Engineers Co., Inc., 2218 Warrensville

Barret Regulation Engineers Co., Inc., 2218 Warrensville Center Rd., Cleveland Heights, O. Barrett Co., 40 Rector St., New York City. Bartlett Mfg. Co., 3003 E. Grand Blvd., Detroit, Mich. Bastian-Blessing Co., 240 E. Ontario St., Chicago, Ill. Bayer Co., A. J., Slauson & Santa Fe Aves., Los Angeles, Cal. Bayley Blower Co., 1817 S. 66th St., Milwaukee, Wis. Bead Chain Mfg. Co., 110 Mt. Grove St., Bridgeport, Conn. Beatrice Steel Tank Mfg. Co., 700-710 S. 7th St., Beatrice,

Neb. Beck Engineering Combustion Kompany, 2332-38 Pine St.,

St. Louis, Mo.

Beckley Perforating Co., North Ave., Garwood, N. J.

Bedard Mfg. Co., 312 S. Third St., Minneapolis, Minn.

Beh & Co., Inc., 1150 Broadway, New York City.

Belmont Smelting & Refining Works, Inc., 341 Belmont Ave.,

Breimont Smelling & Renning Works, Inc., 341 Belmont Ave., Brooklyn, N. Y.
Berger Co., L. D., 59 N. Second St., Philadelphia, Pa.
Berger Bros. Co., 229-237 Arch St., Philadelphia, Pa.
Bergstrom Mfg. Co., Neenah, Wis.
Bernz Co., Inc., Otto, 280 Lyell Ave., Rochester, N. Y.
Berryman Oil Burner Co., 1300 W. Washington Blvd., Chi-

cago, Ill.

Bertsch & Co., Inc., Cambridge City, Ind. Best Register Co., 2005 W. Oklahoma Ave., Milwaukee, Wis. Betz Unit Air Cooler Co., 6 West Ninth St., Kansas City, Mo. Bethlehem Foundry & Machine Co., W. Second St., Bethle-

Bethlehem Foundry & Machine Co., W. Second St., Bethlehem, Pa.

Bethlehem Steel Co., Bethlehem, Pa.

Beverage Industries Corp., 1040 14th Ave., Detroit, Mich.
Beverly Throatless Shear Co., 3009 W. 110th Pl., Chicago, Ill.
Biersach & Niedermeyer Co., 1937 N. Hubbard St., Milwaukee, Wis.

Bird & Son, Inc., 163 Washington St., East Walpole, Mass.

Bishop & Babcock Sales Co., 4901 Hamilton Ave., Cleveland,

O.
Black & Decker Mfg. Co., Towson, Md.
Black Servant Mfg. Co., 2951 N. Market St., St. Louis, Mo.
Bliss Co., E. W., 1420 Hastings St., Toledo, O.
Bluffton Mfg. Co., Findlay, O.
Bodine Electric Co., 2272 W. Ohio St., Chicago, Ill.
Boston Auto Gage Co., Pittsfield, Mass.
Boston Machine Works Co., 13 Willow St., Lynn, Mass.
Bousman Mfg. Co., Inc., 1157 Plainfield Ave., N. E., Grand
Rapids, Mich.
Bowen Products Corp. 5 Logan St. Auburn N. V.

Bowen Products Corp., 5 Logan St., Auburn, N. Y. Boynton Furnace Co., 373 Fourth Ave., New York City. Braden Engineering Corp., 896 Elmwood Ave., Providence,

R. I.

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Braden Mfg. Co., 431 N. 14th St., Terre Haute, Ind.

Brauer Supply Co., A. G., 316-18 N. Third St., St. Louis, Mo.

Breuer Electric Mfg. Co., 852 Blackhawk St., Chicago, Ill.

Brew Tapping Apparatus, Inc., 1775 Broadway, New York City.

Bridgeport Chain & Mfg. Co., 964 Crescent Ave., Bridgeport, Conn.

Conn.
Bridgeport Screw Co., Bridgeport, Conn.
Brillion Furnace Co., Brillion, Wis.
Bristol Co., Waterbury, Conn.
Brooklyn-Wolf Metal Ceiling Co., Inc., 283-89 Greene Ave.,
Brooklyn, N. Y.
Brown, Henry, Asheville, N. C.

Brown-Brockmeyer Co., Inc., Overlook Ave., Dayton, O. Brown Instrument Co., Wayne & Roberts Aves., Philadelphia, Pa.

Brown Oil Burning Equip. Co., 312-314 Massachusetts Ave., Cambridge, Mass

Cambridge, Mass.
Brown Sheet Iron & Steel Co., 964 Berry Ave., St. Paul, Minn. Brownell Co., N. Findlay St., Dayton, O.
Brundage Co., 246 W. Kalamazoo Ave., Kalamazoo, Mich. Brunner Mfg. Co., 1821 Broad St., Utica, N. Y.
Bryan Plumbing & Heating Co., 213 W. Butler St., Bryan, O. Bryan Steam Corp., Peru, Ind.
Bryan Corp., C. L., 10511 Churchill Ave., Cleveland, O. Bryant Heater Co., 17825 St. Clair Ave., Cleveland, O. Buckeye Products Co., 7024 Vine St., Cincinnati, O. Buckingham-Virginia Slate Corp., 1103 E. Main St., Richmond, Va.

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Budke Stamping Co., Canonsburg, Pa.

Buffalo Forge Co., 490 Broadway, Buffalo, N. Y.

Bunsen Oil Burner Corp., 1409 Park St., Hartford, Conn.

Burdett Mfg. Co., 19 N. Sheldon St., Chicago, Ill.

Burgess Battery Co., Madison, Wis.

Burgess Soldering Furnace Co., 292 E. Long St., Columbus, O.

Burke Electric Co., 1201 W. 12th St., Erie, Pa.

Burmester Gas Furnace Mfg. Co., 2117 Cuming St., Omaha,

Neb.

Neb.
Burnham Boiler Corp., Box 74, Irvington, N. Y.
Burnham Stoker, Inc., Vancouver, Wash.
Burnwell Corp., 125 N. Church St., Allentown, Pa.
Burritt & Bro., O. W., Weedsport, N. Y.
Burt Mfg. Co., Akron, O.
Bush Mfg. Co., 100 Wellington St., Hartford, Conn.
Butler Mfg. Co., 13th & Eastern Ave., Kansas City, Mo.
Byers Co., A. M., Clark Bldg., Pittsburgh, Pa.

Cabot Sons, Inc., Samuel, 141 Milk St., Boston, Mass. Calbar Paint & Varnish Co., 2620-26 N. Martha St., Phila-

delphia, Pa.
California Cornice Works, Inc., 1620 N. Spring St., Los Angeles, Cal.
California Oil Burner Co., 1127 E. 31st St., Kansas City, Mo. California Wire Cloth Co., Inc., 1001 22nd Ave., Oakland, Cal. Calkins & Pearce, 205 E. Long St., Columbus, O. Callahan Can Machine Co., Inc., 80 Richards St., Brooklyn, N. V.

N. Y.

Campbell, Andrew C., Div. of American Chain Co., Inc., 929 Connecticut Ave., Bridgeport, Conn. Campbell Companies, E. K., 2441 Charlotte St., Kansas City, Mo.

Campbell Heating Co., 31st and Dean, Des Moines, Ia. Campbell Metal Windows Corp., Div. of Amer. Rad. & Std. San. Corp., 100 E. 42nd St., New York City.

Canton Steel Ceiling Mfg. Co., 2120 Winfield Way, Canton, O. Canton Stoker Corp., Andrews Place, S. W., Canton, O. Capital Mfg. Co., Kingsville, Tex.

Capitol Furnace & Stove Repair, 229 S. Meridian St., Indianapolis, Ind.

apolis, Ind.
Carbondale Machine Co., Carbondale, Pa.
Carbo-Oxygen Co., Benedum-Trees Bldg., Pittsburgh, Pa.
Carey Co., Philip, Lockland, Cincinnati, O.
Carnegie Steel Co., 434 5th Ave., Pittsburgh, Pa.
Carrier Engineering Corp., 850 Frelinghuysen Ave., Newark,

N. J. Carrier-Lyle Corp., 850 Frelinghuysen Ave., Newark, N. J

Carrier-Lyle Corp., 850 Frelinghuysen Ave., Newark, N. J. Carrier Products Corp., 850 Frelinghuysen Ave., Newark, N. J. Carter Paint Co., 310 N. Main St., Liberty, Ind. Cary Mfg. Co., Waupaca, Wis. Celotex Co., 919 N. Michigan Ave., Chicago, Ill. Central Brass Mfg. Co., 2950 E. 55, Cleveland, O. Central Steel & Wire Co., 4545 S. Western Blvd., Chicago, Ill. Central Wire & Iron Works, 621 E. Locust, Des Moines, Ia. Century Electric Co., 1806 Pine St., St. Louis, Mo. Century Engineering Corp., 213-217 Fourth Ave., S. E., Cedar Rapids, Ia.

Rapids, Ia.

Century Fan & Engineering Co., 432 E. 165th St., New York City.

Certain-teed Products Corp., 100 E. 42nd St., New York City. Chain Products Co., 3910 Cooper Ave., Cleveland, O. Chalmers Oil Burner Co., 1234 Central Ave., Minneapolis,

Minn. Chamberlin Metal Weather Strip Co., 1254 La Brosse, De-

Chamberlin Metal Weather Strip Co., 1254 La Brosse, Detroit, Mich.

Champion Blower & Forge Co., Lancaster, Pa.

Champion Metal Weather Strip & Parting Bead Co., 575

Albany St., Boston, Mass.

Champion Spark Plug Co., Upton Ave., Toledo, O.

Chandler Co., 804 1st Ave., N. W., Cedar Rapids, Ia.

Chapman Slate Co., Bethlehem, Pa.

Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.

Cheney Co., 959 Main St., Winchester, Mass.

Cheney Bigelow Wire Works, 417 Liberty St., Springfield,

Mass. Mass.

Chicago Perforating Co., 2445 W. 24th Place, Chicago, Ill. Chicago Pump Co., 2336 Wolfram St., Chicago, Ill. Chicago Steel & Wire Co., 103rd St. & Torrence Ave., Chi-

cago, Ill.
Cincinnati Mfg. Co., Gest & Evans Sts., Cincinnati, O.
Cincinnati Shaper Co., Elam & Garrard Sts., Cincinnati, O.
Cincinnati Sheet Metal & Roofing Co., 230 E. Front St., Cin-

Cincinnati Sheet Metal & Roofing Co., 230 E. Front St., Cincinnati, O. Cincinnati, O. Cincinnati Stamping Co., 28-34 W. McMicken, Cincinnati, O. Clarage Fan Co., Kalamazoo, Mich. Clark Bros. Co., Milldale, Conn. Clark Co., Henry N., 56-62 Union St., Boston, Mass. Clark, Jr., Electric Co., Jas., 600 Bergman St., Louisville, Ky. Clark Stek-O Corp., Stek-O Hill, Rochester, N. Y. Clarm Mechanical Devices Co., 410 S. Elizabeth St., Lima, O. Clauss Shear Co., Fremont, O. Clay Equipment Corp., Cedar Falls. Ia.

Clauss Shear Co., Fremont, O.
Clay Equipment Corp., Cedar Falls, Ia.
Clayton & Lambert Mfg. Co., 11111 French Rd., Detroit, Mich.
Clendenin Bros., 108 South St., Baltimore, Md.
Cleveland Acid Swab Co., 1408 Marlowe Ave., Lakewood, O.
Cleveland Cooperative Stove Co., 2323 E. 67th St., Cleveland,

Cleveland Punch & Shear Works, 3917 St. Clair Ave., Cleveland, O. Cleveland Steel Products Corp., 7304 Madison Ave., Cleveland,

O.
Clinton Metallic Paint Co., Box 278 Clinton N. Y.
Coburn Trolley Track Mfg. Co., Holyoke, Mass.
Cocking, Geo. J., 1336 W. 5th St., Santa Ana, Cal.
Coleman Lamp & Stove Co., Wichita, Kan.
Columbia Burner Co., 1649 Dorr St., Toledo, O.
Columbia Steel Co., Russ Bldg., 235 Montgomery St., San

Francisco, Cal. Columbian Enameling & Stamping Co., 1536 Beech St., Terre

Haute, Ind. Columbian Steel Tank Co., 1401-1625 W. 12th St., Kansas

City, Mo. Columbus Heating & Ventilating Co., 400 Dublin Ave., Co-

lumbus, O.
Columbus Humidifier Co., 154 N. Fifth St., Columbus, O.
Columbus Metal Products, Inc., 767 N. 4th St., Columbus, O.
Combustion Engineering Co., Inc., 200 Madison Ave., New

York City Combustion Oil Burner Co., Division of Heil Co., 3000 W.

Montana St., Milwaukee, Wis.
Combustioneer, Inc., Springfield, O.
Comstock-Castle Stove Co., 731 S. Front St., Quincy, Ill.
Connors Paint Mfg. Co., Wm., 669-683 River St., Troy, N. Y.
Consolidated Air Conditioning Corp., New York City.
Consolidated Ashcroft Hancock Co., Inc., 11 Elias St., Bridge-

port. Conn. Consolidated Car-Heating Co., Inc., 413 N. Pearl St., Albany,

N. Y. Continental Electric Co., Inc., 323 Ferry St., Newark, N. J. Continental Products Co., E. 222nd St. & Nickel Plate R. R.,

Euclid, O.
Continental Screw Co., Mt. Pleasant, New Bedford, Mass.

Continental Steel Corp., Kokomo, Ind. Continental Stove Corp., Front & Walnut, Ironton, O. Cook & Chick Co., 315 Union Park Court, Chicago, Ill.

Cook Electric' Co., 2700 Southport Ave., Chicago, Ill. Cooper Sanitary Mfg. Co., 34th & Chestnut Sts., Philadelphia. Pa.

Copeland Refrigeration Corp., 322 Cass Ave., Mt. Clemens, Mich.

Mich.
Copperweld Steel Co., Glassport, Pa.
Coppus Engineering Corp., Worcester, Mass.
Corbin Screw Corp., High St., New Britain, Conn.
Cork Import Corp., 345 W. 40th St., New York City.
Cork Insulation Co., 155 E. 44th St., New York City.
Cornell Iron Works, Inc., 36-20 13th St., Long Island City,

Cornell Wood Products Co., 230 N. Michigan Ave., Chicago,

III.

Corozone Co., 1110 Hanna Bldg., Cleveland, O.
Cotta Transmission Corp., 2340 11th St., Rockford, III.
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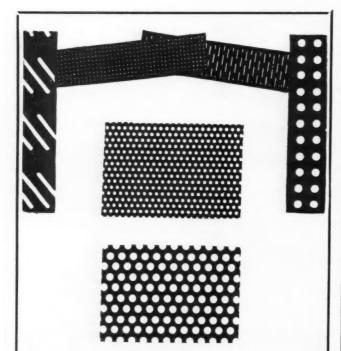
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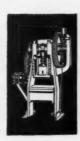


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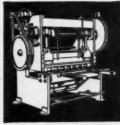




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Kruse & Dewenter Co., 427 E. Washington St., Indianapolis, Ind. Kuhnla, Inc., August, 10 Lorimer St., Brooklyn, N. Y.

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Lake Erie Engineering Corp., Box 68 Kenmore Sta., Buffalo, N. Y. N. Y. Lakeside Co., Hermansville, Mich.

Lamb & Ritchie Co., 250 Albany St., Cambridge, Mass. Lamneck Products, Inc., 416-436 Dublin Ave., Columbus, O. Lamson & Sessions Co., 1971 W. 85th St., Cleveland, O. Lastik Products Co., Inc., 807 Amer. Bank Bldg., Pittsburgh.

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Littleford Bros., 453 E. Pearl St., Cincinnati, O.
Logan-Long Co., 37 W. Van Buren St., Chicago, Ill.
Long Controls Co., Inc., Thomas, 747 N. Scott St., South

Long Controls Co., Inc., Thomas, 747 N. Scott St., South Bend, Ind.
Lord Mfg. Co., 1316 Holland St., Erie, Pa.
Ludlow-Saylor Wire Co., Newstead Ave. & Wabash R. R., St. Louis, Mo.
Ludlum Steel Co., Spring St., Watervliet, N. Y.
Ludowici-Celadon Co., 104 S. Michigan Ave., Chicago, Ill.
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Mahr Mfg. Co., 1728 N. 2nd St., Minneapolis, Minn.

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Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc., Van Houten Ave., Passaic, N. J.

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SPECIFICATIONS FOR GILT EDGE FURNACES

	No. 534	No. 537	No. 540	No. 545
Diameter of Casing	42 in.	46 in.	50 in.	57 in.
Width of Lower Casing.	22 in.	22 in.	24 in.	24 in.
Width of Upper Casing.	27 in.	30 in.	30 in.	32¼ in.
Length of Casing Sheet.	9 ft. 34 in.	9 ft. 1014 in.	10 ft. 7% in.	11 ft. 1114 in.
Height of Castings		541/2 in.	58 in.	60 in.
Diameter of Grate	17 in.	20 in.	23 in.	26 in.
Area of Grate	226.98 sq. in.	314.16 sq. in.	415.47 sq. in.	530.90 sq. in.
Depth of Firepot	13 in.	14 in.	15 in.	16 in.
Cap. of Firepot, cu. in.	3126.87	4620.89	6506.05	8824.73
Total Heating Surface		54.50 sq. ft.	74.88 sq. ft.	97.24 sq. ft.
Diameter of Radiator	34 in.	37 in.	40 in.	45 in.
Diameter of Smoke Pipe	8 in.	9 in.	9 in.	10 in.
Height, Center of Smoke				
Pipe	44% in.	47 1/2 in.	49% in.	52% in.
Size of Feed Door		15x15 in.	15x15 in.	15x15 in.
Size of Ash Door	13x16 in.	13x16 in.	13x19 in.	13x19 in.
Shipping Weight	1100 lbs.	1275 lbs.	1610 lbs.	2000 lbs.
Leader Pipe Capacity	500	650	825	1000
Ratio Htg. Surf. to Grate.	1 to 25	1 to 25	1 to 26	1 to 26

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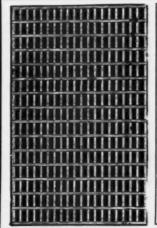
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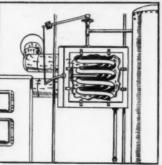
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"Send Us Your Inquiries—We Have the Stock"

"Send Us Your Inquiries—We Have the Stock"

130 S. Clinton St. Chi cago

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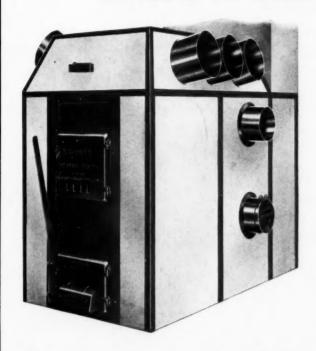
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BRUNETT HEATING SYSTEMS



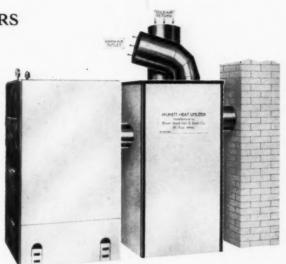
BRUNETT PATENTED "DUAL" WARM AIR FURNACES—

This combined warm air furnace and patented heat utilizer is one of the greatest improvements in the heating industry. The furnace operates with a much higher efficiency, produces a large volume of warm air and is a great fuel saver.

The unit is built of heavy gauge (electrically welded) steel throughout, with refractory furnace lining. Large furnace and ash pit doors. Solid steel front welded to combustion chamber. Equipped with locomotive grates. Attractively and appropriately finished for basement recreation rooms. Equally efficient with all types of fuel, coal, oil or gas, and adaptable to any size building. Furnished with a humidifier.

BRUNETT PATENTED HEAT UTILIZERS

The Brunett Patented Heat Utilizer can be installed in connection with any type heating plant and will effect 25 to 60% saving of fuel. The unit is placed between the heating plant and the chimney. It provides a constant fanforced stream of fresh air which has been heated by smoke and gases that have formerly been wasted up the chimney. Heavy welded steel construction. Requires no service. Inexpensive to install. Can be furnished for any size job, from smallest home to largest commercial building. With or without a humidifier. Attractively and appropriately finished for basement recreation rooms.



SPECIFICATIONS

No. of Furnace	Grate Diameter Inches	Heating Surface Sq. Ft.	Capacity B.t.u. per hr. II,400 B.t.u. Coal	Capacity B.t.u. Oil	Capacity Sq. Inches Warm Air Pipe 175°
22-CL-CR	18.5	45	65,331	133,200	480
22-SL-SR	18.5	56	75,255	159,840	545
26-CL-CR	22.5	48	86,901	198,000	640
26-SL-SR	22.5	68	99,573	207,800	732
30-SL-SR	26.5	89	132,938	284,320	977
36-SL-SR	32.5	127	196,890	414,000	1450
40-SL-SR	36.5	200	270,577	519,120	1989

Larger Sizes on Request

BRUNETT HEAT UTILIZERS

DICCIDE I IIDA	I CIIL	LLLING	
Utilizer Number	15	17	20
Diameter of Heat Chamber	15"	17"	20"
Size of Casing	20"x24"	22"x28"	24"x30"
Diameter Smoke Inlet and Outlet	8"	9"	10"
face	36'	46'	56'
Approximate Weight, pounds	140 9" 60"	170 10"	200
Height Overall	00	00	00

NOTE-In ordering, specify which side outlet is wanted, facing furnace-Right or Left.

BROWN SHEET IRON & STEEL COMPANY

Pioneer Welders of the Northwest

964 BERRY AVE.

NESTER 7137

SAINT PAUL, MINNESOTA



Somebody made Money

...ON THESE MONEL METAL JOBS

• Want to make some real money this year? Want to make new customers and increase your sales to old ones? Then take a tip from sheet metal contractors who have specialized on Monel Metal* equipment!

They will tell you that practically every home, factory, restaurant, store and public building in your community is a prospect for Monel Metal in some form.

They'll also tell you that you can make a worthwhile profit on every Monel Metal job, because intensive national advertising over a period of years has made your customers familiar with the outstanding merit of Monel Metal. They already know that when it comes to beauty, rust-immunity, corrosion-resistance, cleanability and durability, Monel Metal is in a class by itself... it's unique! No other available material offers such a combination of time-and-

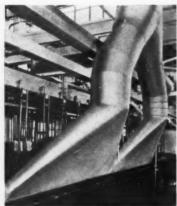
money-saving properties.

Write for further information about Monel Metal and sales helps specially prepared for your use.

*Monel Metal is a registered trade-mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.



 Nearly every factory needs durable, corrosion-resisting Monel Metal utensils. They're easy to make, profitable, and mighty good leaders to sales of heavier Monel Metal equipment!



 Monel Metal exhaust system over an acid tank for cadmium plating. Built by J. C. Lauber Co., South Bend, Ind.



• The rapidly growing popularity of Monel Metal kitchen equipment offers alert sheet metal men a rare opportunity to sell the vast home market.

ABL 8





ABL 8